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NELSON RELICS.

By the Right Honourable the EARL NELSON.

THE desire to preserve the relics of our ancestors or of the great men of any tribe or nation seems to be inherent in the human race. This desire is not only found among the Red Indians and other untutored tribes, but among those nations who have become most highly civilised, and among Christian Churches, which are eager to preserve the relics of their saints.

It is therefore apparent that the thief or thieves who stole and damaged the Nelson relics at Greenwich have not only disgraced themselves as Britons in robbing a national collection, in which they as a part of the nation have a share, but have grossly transgressed the primal laws of the whole human race. The cruelty of the act can best be understood when we consider that these relics were the direct gifts of individuals to the nation; and the spirit in which they were given can best be illustrated by an extract from a letter written by *Mr. J. A. Mullens*, of *Firgrove*, Weybridge, in answer to my thanks to him for his noble gift.

> "I am much gratified that my action as regards the *Nelson relics* meets with your approval, but you must permit me to say that the terms in which you speak of it are altogether too flattering. Purchase gave me possession of these treasures, but in my opinion a mere transfer of money (it was about £3,000) gave me no right either on public or private grounds to treat them as my private property. In handing to the Museum at Greenwich *the box* in which the Freedom of the City of London was presented to Lord Nelson, and the *sword hilt* given to him by the captains who fought at the Nile; and to the United Service Institution the *Copenhagen wine coolers* and his *fork and knife*, I have only done what every Englishman in my place would have been eager to do."

These sentiments are worthy of an old Etonian and a true Briton, and it is indeed hard that his noble presents to the Museum at Greenwich should have met with so base a reward.

To all who are seeking for Nelson relics, I would recommend their referring to the ably drawn up catalogue for the Naval Exhibition at Chelsea, in 1891: the Committee professed to receive no relics that were not proved to their satisfaction to be authentic, and a list of their possessors was given. This would embrace a large number of relics, including personal presents from the Admiral in his life-time or by special bequest. But besides this there are four distinct sources, to one of which everything possessed by the Admiral at the time of his death should be clearly traced.

Everything at Merton that was not an heirloom went to *Lady Hamilton*, and most of these subsequently came into the possession of *Alderman Smith*, who advanced money to enable Lady Hamilton to escape from the King's Bench and to leave for Calais. The rest were divided into three parts, following the line of succession laid down at the Admiral's desire in the Patent as Viscount:—

1. To *William, the first Earl*, with the heirlooms.
2. To the Admiral's *eldest sister, Mrs. Bolton*.
3. To his *youngest sister, Mrs. Matcham*.

The portion that went to Earl William was left by him to his daughter, Lady Bridport, and was subsequently brought to the hammer under the dire necessity of the present Viscount.

These precious relics were mostly preserved to the country. The late Government purchased the *jewelled orders* for the Museum at Greenwich; and the valuable *volumes with his original public letters* were secured by the British Museum. To Mr. Mullens' purchases I have already referred. The *diamond aigrette* presented to the Admiral by the Sultan after the Battle of the Nile—a Bronté heirloom—was purchased by the wife of Mr. George Eyre Matcham, great-grandson of *Catherine*, the Admiral's favourite sister, and thus added to their portion of the relics originally distributed. The *coat*, so wantonly damaged by the thieves, was lent by the first Earl to Lady Hamilton for her life, and not having been returned came into the possession of Alderman Smith's family; a letter thus tracing the coat is now in the Museum at Greenwich.

I inherited a very small portion of my grandmother's share, but during the 65 years since I succeeded to the title, I have, by the kindness of friends, got together a few relics for *my Nelson Room*, and I fancy that, however few they may be, a catalogue *raisonné* of them may be of some national interest.

1. A Sepia Drawing.

My first relic was a sepia drawing by the Admiral's beloved *sister Katie*, a sketch from memory of *Burnham-Thorpe Rectory*, where the Admiral was born. This sister went with her husband to see him off from Portsmouth when he went to fight the French and Spanish Fleet then gathered in Trafalgar Bay. On wishing her good-bye his last words were—"Oh, Katie, that

gipsy!" referring to a prophecy from a gipsy fortune-teller in the West Indies, more than twenty years before, to the effect that by the time he was forty he would have reached the top of his profession; after this she could say no more, as the book was closed.

2. A TREATISE ON SHIPBUILDING AND NAVIGATION.

By Mungo Murray.

London. MCCLIV.

This has an original autograph:—

"Horatio Nelson. Lowestoft, A.D. 1777."

And he writes to his brother William, April 14th of that year, stating that he had passed as lieutenant on the 9th April and had received his commission on the following day to the "Lowestoft"—32-gun frigate, *Captain Wm. Locker.*

3. OIL PAINTING BY RIGAUD, R.A.

Captain Locker and Nelson became great friends, and I was enabled shortly after coming of age to purchase this painting of Edward Hawke Locker, Esq., F.R.S., his son, then Governor of Greenwich Hospital.

In this picture, Fort St. Juan in Central America, which Nelson took in 1780, is given in the background. He was then a captain at the age of 22. This picture was given by Nelson to Captain Locker and was placed by him between two portraits of captains—*Sir George Montague* and *Sir Charles Maurice Pole.* He writes of this picture:—

> "I hope when I come to town to see a fine trio in your room."

Again:—

> "If Rigaud has done the picture let me know when you next write, and I will send an order upon Mr. Paynter for it."

Again on 21st February, 1781, he writes:—

> "As to my picture, it will not be the least like what I am now, that is certain; tell Rigaud to add beauty to it and it will be much mended."

4. WATCH—A SILVER TURNIP.

Captain Wm. Locker left the Admiral his watch—a silver turnip—which he much valued as a remembrance of his old friend, but which he never wore.

5. A BRACE OF SILVER-MOUNTED PISTOLS with "Horatio Nelson" engraved on them.

Given to Viscount Trafalgar on his marriage. This introduces the great fighting period with the "Agamemnon" from 1794 to 1796.

6. A LOCKET, with the following inscription: "From Horatio Nelson to Lady Hamilton, A.D. 1796," was sent me by Captain Molyneux, who bought it at a pawnbroker's in Brussels, 1865. He offered to erase the inscription, which is its chief value. There had been hair at the back.

The Admiral's first introduction to Lady Hamilton is mentioned in a letter to the Viscountess, September 12th, 1793.

> "Lady Hamilton has been wonderfully good and kind to Josiah [his stepson]. She is a young woman of amiable manners, who does honour to the station to which she is raised."

The more intimate relationship between them certainly never occurred till after the Battle of the Nile. I therefore think this present must have had direct reference to the incident he refers to in his codicil.

> "She obtained the King of Spain's letter in 1796 to his brother the King of Naples, acquainting him with his intention of declaring war against England."

Negotiations were going on between France and Spain as far back as April, 1795, yet in September, 1796, the Admiral knew nothing of it, and therefore dared not take a Spanish frigate.

The treaty of peace was signed on August 19th, 1796, and war was not publicly declared till October. Nevertheless, the Admiral believed Lady Hamilton's statement, and this *locket* seems to bear testimony to that belief.

7. THE "SAN JOSEPH" TABLE AND BOOK-CASES.

When this ship, which used to be the Guard Ship at Devonport, was broken up, in 1849, the Admiralty gave me some of the wood.

This is the ship he took with the "San Nicholas" on the 14th February, 1797.

> "On the quarter-deck of a Spanish first-rate did I receive, extravagant as it may seem, the swords of the vanquished Spaniards, which as I received I gave to Francis Fearney, my bargeman, who with the greatest *sang-froid* placed them under his arm."

The *box* given to Greenwich by Mr. Mullens, above referred to, had enamelled on it the little Captain with the two great Spaniards as captives. The Spanish Admiral's sword, returned to him by Lord St. Vincent, was presented by Nelson to the Corporation of Norwich.

For this action Nelson was made a Knight of the Bath.

8. A SEAL, with his arms and supporters, and the motto "Faith and Works." The stern of the "San Joseph" was his crest. I purchased this of the granddaughter of the Viscountess.

9. A Miniature of the Admiral.

Purchased from the same source. It is recorded that up to the time of her death the Viscountess has been seen looking at and kissing this miniature.

10. The Sofa Bed from the Cabin of the "Theseus."

Left me by Admiral Hockin. It is covered with satin for their drawing-room, but underneath is the old black leather, and I was told that blood from the wounded arm is still visible upon it.

When he first joined the "Theseus," in 1797, he tells his wife that the following was found on the quarter-deck:—

> "Success attend Admiral Nelson; God bless Captain Miller; we thank them for the officers they have placed over us; we are happy and comfortable and will shed every drop of the blood in our veins to support them, and the name of 'Theseus' shall be immortalised as high as the 'Captain.'

We now come to the relics in reference to the Battle of the Nile, August 1st, 1798, H.M.S. "Vanguard."

Honor est a Nilo is an anagram forming *Horatio Nelson*. The Admiral heard of this and tells Lady Hamilton about it. How he would have gloried had he known, before his last battle, that Trafalgar meant "The Cape of Laurel"!

11. Picture by Guzzardi.

Purchased for me of Joseph Franklin, Esq., of Albemarle Street, in 1859. It is a full-length portrait, 36 inches by 24 inches, cabinet size. It is in a gilt frame, with carved pomegranates upon it. It was purchased at Naples, and had on its back the words "Il Maestro il Re." It is a signed picture. A larger full-length by the same artist was presented by the Admiral to an hotel at Milford Haven, from which it was purchased for the Admiralty, and now hangs over the mantle-piece of the Board Room.

It is not a pleasing picture, as he is looking very ill, and is wearing his cocked hat, with the diamond aigrette upon it, at the back of his head in consequence of the wound received at the Nile; but it is distinctly historic, not only having the battle of the Nile with the "L'Orient" in flames for a background and other trophies, but as witnessing to the state of his health after that great battle. He had been continuously on service for four years, had lost an eye and an arm, and had received other wounds; he had been the hero of a hundred fights; and as to the Nile wound, *Captain Mahan* writes:—"The distress from his head continued for some time with little abatement, and naturally affected his tone of mind."

12. The Silver Vase.

Given to the Admiral by the Company of English merchants trading in the Levant.

This was bequeathed to my grandmother in his will, "to my sister *Susannah Bolton* the silver cup presented to me by the Turkish Company." This cup is particularly artistic: two sphinxes form the handles; on the top of the lid, which is surrounded by crocodiles and lotus (the symbols of Egypt), is Neptune with his trident; round the bowl of the cup are the names of the French ships with the number of men and guns, and what became of them, and below a noble inscription.

13. The Gold Medal of the Nile.

Worn by the Admiral at the time of his death. His first medal was given by him to the widow of Captain Westcott, who fell at the Nile. Hearing she lived at Honiton, he slept there, asked her to dinner, and, finding she had no medal, presented her with his own.

14. Marble Bust on Pedestal.

By Franz Thaller and Matthias Ranson. "Vienna, MDCCI." carved at back of bust, making it by the mistaken omission of one C 1701 instead of 1801.

This was purchased for me of Miss Pettigrew, daughter of Dr. Pettigrew, F.R.S., who purchased the private correspondence between Nelson and Lady Hamilton.

The Admiral must have sat for it when staying at Vienna on his way home from Naples in 1800. Dr. Pettigrew received the *Bust and pedestal* from Mrs. Alderman Smith in recognition of long medical attendance upon her.

This *Bust* was exhibited by me at the *Guelph* Exhibition, 1891. Sir Wm. Fraser, Bart., wrote me:—

"I am well pleased with the Bust, it is the only portrait that gives one a real idea of the great Admiral; full of character, combining gentleness with inflexible determination—the ideal of a hero."

15. A Mahogany Chippendale Tray with the Nelson arms and a Baron's coronet inlaid in wood.

16. A Large Ivory-handled Silver Seal, with the Nelson arms and a Baron's coronet.

This, I believe, was the seal used at Copenhagen, 2nd April, 1801, when he discarded the wafer and *sealed* the offer of an armistice to the Crown Prince of Denmark:—

"Danes, we are brothers."

In a letter to Lady Hamilton, 23rd May, 1803, the Admiral refers to this seal:—

"I have left my silver seal."

THE NELSON PORTRAITS.

There were two portraits by Abbot taken after his return home from Teneriffe—a *kit-cat*, of which the Viscountess writes, and one for Captain Locker, from which many replicas were taken; this was in the possession of his son when I bought the Rigaud picture.

It is noteworthy that up to, and including, the Guzzardi picture, the hair was brushed off the forehead; afterwards, including the Vienna bust, a lock of hair was brushed forward to conceal the scar of the Nile wound, which must have caused a great disfigurement. This change in wearing the hair makes it difficult to trace a general likeness through all the portraits.

I have a good full-length copy by Morton (1835) of *Hopner's* picture, now in St. James's Palace.

A pencil sketch by T. E. Doxman (1802), his own proof, with "*Questa una carta biangha di dietro al Pietratto*" written upon it in pencil with the Admiral's left hand. It was drawn on remarkably thin paper, and is now mounted on white cardboard.

A Powerful Pencil Medallion, by Simon de Kester, taken two days before he sailed for Copenhagen.

A Miniature on Ivory, after Hopner.

A Miniature, by Cosway.

A Medallion, in wedgewood, after Flaxman.

I have also a *water-colour sketch of Lady Hamilton*, by Romney, and a good *medallion* on an engraved jewel, both very beautiful.

A water-colour sketch of Merton, and a *print* worked over in needlework, supposed by some to be "Sterne and Maria," but the man in black dittoes is like the Admiral, and has an empty right-arm sleeve, while the face and figure and the dog are exactly like the figures represented in the sketch of Merton.

17. THE REVEREND EDMUND NELSON.

By Sir William Beechey.

Taken in March, 1800, shortly before his death. The Viscountess was with him at Bath, and called on Sir William to ask him to take a portrait. At first he declined, as he was on holiday, but when he heard who it was, he said:—

"By God! I would go to York to do it. Yes, ma'am, directly."

The Admiral refers to this picture from the "Amazon," October 19th, 1801:—

"I want a half-length of Sir William Hamilton the same size as my father's, by Beechey."

18. TWO PLATES (OF A WORCESTER DESSERT SERVICE).

Specially made for him with Viscount and Ducal Coronet over his arms with the names of different battles on each plate, and with a border of oak leaves. These are fastened to the wall

by two curtain holders with a miniature of the Admiral in Battersea enamel—part of the fittings of a room at Fonthill which Mr. Becford fitted up for his visit there in 1801.

19 to 26. We now come to the contents of the "Victory" cabin, 1803-5.

A Large Sofa in black leather on which he slept.

His Chair also in black leather, with a stuffing of hay on the right arm for his stump to rest upon. This was left me by will by G. H. Thompson, Esq., of Andover, and had on it the following inscription:—

> "This chair is the last chair the great Lord Nelson ever sat on, and is to be given at my decease to the present Earl Nelson and his heirs."

It was given by the then Captain Thomas Hardy to my aunt, Isabella Thompson, and was landed out of the "Victory" after her return from Trafalgar and taken to my grandfather's house at Portsea, where she was then living.

My aunt used to twit Captain Hardy that he had kept the Admiral's chair and given her the one he used himself, upon which he declared "that he would be d——— if that was not the Admiral's chair, and the fellow in which he himself sat was broken in clearing the ship for action." This chair and its fellow met again side by side at the Naval Exhibition at Chelsea 1891.

A mahogany tripod table, weighted, and with scoops for holding plates and saucers, was also from the cabin, and was given me by Lord Addington.

A square dressing-room looking glass, from the cabin.

A telescope given by the Admiral to Thomas Atkinson, Esq., master of the "Victory," in remembrance of his godson, Captain Horatio Nelson Atkinson.

His Neapolitan cane, given me in 1884, by Chancellor Burton, of Carlisle: he was then ninety-three, and could remember the news coming of the battle of the Nile, and subscribing towards the Patriotic Fund of that day at a service in commemoration of the battle of Trafalgar.

I have had the pleasure of shaking hands with Sir Thomas Hardy, Sir Charles Bullen, Admiral Pasco, Tom Allen, his servant, who lamented that he missed the "Victory" when starting for Trafalgar, and Dr. Beattie, the surgeon on board the "Victory," who has often shown me the bullet which slew the Admiral. He also published a book, "The Death of Nelson," with a beautiful engraving of a picture by Devis, who was assistant surgeon on board the "Victory." Devis painted one for Admiral Page, of which I have a copy. There is a miniature of the same, which was exhibited last year by Lord Rosebery at the United Service Institution at Whitehall. There is a great shade to protect his eye, which was getting very weak. I consider it, next to the Vienna bust, the best likeness extant.

The Admiralty sent me some *muskets, pistols, boarding pikes,* and *cutlasses,* returned as worn out in 1806, and, therefore, most likely used in

the great battle. They are now placed to decorate three niches in the Hall at Trafalgar.

I have also *a part of his private log* in which he made entries every day during his 2½ years' patient watching of the French fleet and caring for the health and comfort of those under his command.

I consider this period, culminating as it did in his greatest victory, the noblest period of his life, far from those he loved best, with great self-denial he gave himself up to the service of his King and country, and was thus enabled to say in the hour of victory :—

"Thank God, I have done my duty."

No man has done more to add to the prestige of the British name or to lay more surely the foundations of the British Empire. If half-an-hour spent over the "Nelson Relics" encourages others in like manner to do their duty, I shall indeed be satisfied.

NELSON.

OUR FOOD SUPPLY IN TIME OF WAR, AND IMPERIAL DEFENCE.

By Captain STEWART L. MURRAY, Gordon Highlanders.

Tuesday, 26th February, 1901.

The DUKE OF NORTHUMBERLAND, K.G.,
Hon. Colonel 5th Bn. Northumberland Regiment, in the Chair.

IN UTRAQUE FORTUNA PARATUS.

THE subject with which I am about to deal is so gigantic, and so bristling with difficulties, that I must ask you to listen to me with a certain amount of indulgence. I have endeavoured to cut my paper down to its utmost limits, but the questions involved are so huge, that I am afraid it will take me nearly an hour and a half to read, and even that can only be done by omitting a great deal. There are however present to-day some of the most eminent practical authorities on the various complicated questions involved, who will be able to supply my deficiencies, so I hope that we shall be able afterwards to thoroughly thresh the matter out, once for all, even if we have to make an all-night sitting of it.

In the JOURNAL of the R.U.S.I. for January appeared the translation of a lecture at Vienna by Lieut.-Field-Marshal Ratzenhofer on the war in South Africa. The lecture closed with these words:—"When we contemplate the perturbation of the political world, brought about, seemingly, by the Imperialism of the Anglo-Saxon race; when we note that the war in South Africa revealed, as a sudden flash of lightning illuminates a dark night, *the hatred of Great Britain* by all but the Anglo-Saxon people, then England, as a world Power, supported solely by its fleet, stands out in its proper perspective."

Hated by all; supported solely by our fleet. That is how we stand to-day. It is an ominous position, which may well cause the most optimistic to fear the future. As we are at present organised, if our enemies can but manage to defeat our fleet, which, to say the least, is not beyond the range of possibility, we shall be absolutely at their mercy, to conquer us by an overwhelming invasion, or to starve us into submission, whichever they please. Yet if our nation were but properly organised for defence, we possess ample resources within ourselves to enable us to bid defiance both to invasion and to starvation. But these great defensive resources we have not as yet even attempted to organise.

We have warning enough. The open discussion in Germany, France, and Russia, as to the possibility of invasion should open our eyes, and cause us, before it is too late, to make the necessary preparations for defence. There may be comprised as—First, a Navy increased to a three-Power scale instead of a two-Power scale; secondly, an Army on the principle of universal Militia service for Home Defence; and, thirdly, a Food-Supply Department to guarantee us against starvation. That we can easily raise enough revenue to thus put our Imperial Defence on a proper footing, I have been informed on very good authority. It is with the last of these three equally necessary components of a thorough and properly-reasoned scheme of Imperial Defence that I propose to deal in this paper.

The idea of a Food-Supply Department may at first perhaps sound strange. But if we reflect that modern industrial conditions have brought it gradually about that the exhaustion of the hostile food supply, by forbidding the export of food-stuffs, by financial operations, and by force, will be one of the chief weapons of future warfare, it will no longer appear strange.

Situated as we are, the food supply is to our nation so vitally important, that the strangeness lies rather in the fact that we as yet possess *no* department under whose charge it shall be in war-time.

The question of our food-supply lies at the very root of any properly reasoned scheme of Imperial Defence, because it determines our *staying power* in the event of European war. For instance, it is manifestly useless to have a Navy equal to those of any two Powers, or even of any three Powers, if it is possible for those two Powers, without sending a single ship to sea, to raise provisions to famine prices in this country, by financial operations only. Similarly, it is plainly useless to have the strongest possible Army, a universal service Army, to guard us from invasion in the not impossible event of naval disaster, if it is in the power of our enemies to starve us into submission in about six months or so, without landing a single man.

Yet that this is practically our position at present, or very nearly so, and further, that this position is due solely to our own negligence, I do not think that anyone who has studied the subject can deny.

The Limit of the Purchasing Power of the Poor.

For even supposing that a continuous supply of sufficient food could be brought into the country, which is extremely doubtful, it would undoubtedly be brought in at such greatly enhanced prices, as would place it quite beyond the purchasing power of the poorer classes.

To form any sort of idea as to the limits of the purchasing power of the poor is tremendously difficult, for their purchasing power is elastic, and so many different considerations have to be taken into account in estimating it. Yet it is necessary for the purpose of this enquiry. I have endeavoured to obtain an estimate from the best authorities, but have been unable to obtain anything definite. So I have been compelled to

endeavour to form a rough estimate, a very rough estimate, myself, from the *data* available. This I submit for criticism with all humility, conscious that I have no qualifications for such a task. It will, however, serve as a basis for argument. The matter requires to be gone into by a Government enquiry. Meantime I put forward the following *data*.

The most authoritative work on the condition of the poor is generally admitted to be Mr. Charles Booth's nine volumes on "The Life and Labour of the People," worked out in the greatest detail for London. I shall, accordingly, work as far as possible on his figures. I take 25,000,000 of our population to be urban to such a degree that Mr. Booth's figures for the whole of London will apply to them.

Mr. Booth divides the population as follows :—

A. *The lowest class*, occasional labourers, loafers, and semi-criminals.

B. *The very poor*, earnings under 18s. a week, casual labour, hand-to-mouth existence, chronic want.

C and D. *The poor*, including alike those whose earnings are small because of irregularity of employment, and those whose work, though regular, is ill-paid. Earnings from 18s. to 23s. a week.

E and F. *The regularly employed and fairly paid* working classes of all grades, earnings 23s. and upwards to 50s. a week.

G and H. *Lower and upper middle classes*, and all above this level, including professional classes.

"The classes *C* and *D*, whose poverty is similar in degree, but different in kind, can only be properly separated by information as to employment. It is the same with *E* and *F*, which cover the various degrees of working-class comfort. *G* and *H* are given together for convenience."

The Proportions of the Various Classes given for London are as follows :—

A. The Lowest	37,610	or ·9	per cent.	In Poverty 30·7 per cent.
B. The Very Poor	316,834	.. 7·5	..	
C and *D*. The Poor	938,293	.. 22·3	..	
E and *H*. Comfortable Working Classes	2,166,503	.. 51·5	..	In Comfort 69·3 per cent.
G and *H*. Middle and Upper Classes	749,930	.. 17·8	..	
Total ...	4,209,170	100·0		

These figures applied to 25,000,000 of our Urban Population.

A. The Lowest	·9 per cent.	=	225,000	In Poverty 7,675,000.
B. The Very Poor	7·5 ..	=	1,875,000	
C and *D*. The Poor	22·3 ..	=	5,575,000	
E and *F*. The Comfortable Working Classes	51·5 ..	=	12,875,000	In Comfort 17,325,000.
G and *H*. The Middle and Upper and Professional Classes	17·8 ..	=	4,450,000	
Total ...	100·0		25,000,000	

To see how far these classes could stand a rise in prices of threefold, I examined the Budgets published by Mr. Booth showing the relative income and items of expenditure of a number of working-class families. The circumstances of the poor and their earnings and families vary so much that it is difficult to consider them by classes. But it is the only way to obtain even a rough estimate.

Take, therefore, first, as representative of the comfortable working class (*E* and *F*), a family whose earnings are 32s. a week, or £80 a year. The expenditure is as follows :—

Bread	11	per cent. of the income.	
Meat	13	,,	,,
Other food / Drinks	29	,,	,,
Rent, Rates, / Taxes	19	,,	,,
Clothing / Fuel / Light / Tobacco / Furniture	12	,,	,,
Doctor / Education / Amusements	5	,,	,,
Surplus	7	,,	,,
	96		

Apparently, therefore, if prices were increased threefold, it would be possible for such a family, by stinting all luxuries, to exist.

Therefore we may take all classes (*E* and *F*) as able to do the same, roughly. Now take a representative of classes *C* and *D* (the poor). In this family the earnings amount to £1 5s. 6d. a week; there is no surplus, but a frequent deficit, though they are teetotalers. The weekly bill totals thus :—

	s.	d.	
Bread	4	8¼	
Meat / Bacon / Fish	4	5¼	There is here apparently no margin for further economy; if bread went up three times and meat twice, they would be unable to buy enough food to keep going for any length of time.
Other foods	7	7¼	
Total food	16	8¾	
Rates and Rent	2	7¼	
Fuel, Light, Washing	3	3¼	
Clothes, Boots, etc.	2	7	This may be taken as representative of classes *C* and *D*, or all earning below 23s. a week; they earn 25s. a week, so all below 23s. would be still worse off.
Education / Doctor / Recreation	1	5¾	
	£1	6 8	

From the foregoing I conclude that classes *A*, *B*, *C*, and *D* would be hardly able to stand a rise of prices two-fold, and quite unable to stand

a rise of prices three-fold. These classes total 7,500,000. Allow one-third for the difficulty of estimating correctly, and then the total is 5,000,000.

Again, take the case of those of classes *E* and *F*, who would be thrown out of work by war. In 1863 a stoppage of half our raw import of cotton threw 400,000 people starving on to charity in Lancashire alone; which shows that it is difficult to exaggerate the gravity of the matter.

Now the total value of our trade, imports and exports together, is £814,000,000, of these £113,000,000, or roughly one-seventh, depends upon France and Russia and their possessions; and £175,000,000, or roughly one-fifth, upon Germany, France, and Russia together. Considering this, and also the increased rates of insurance, freights, and raw material in war-time, it seems a moderate estimate to say that in event of war with France and Russia, one-seventh, and if Germany joins against us, one-fifth of our trade must vanish for the time; which means that one-seventh or one-fifth respectively of classes *E* and *F* would be reduced to the condition of the Lancashire cotton operatives in 1863, *i.e.*, 2,000,000 or 3,000,000, respectively, must be added to the 5,000,000 already arrived at. This makes a total, even though we keep command of the sea, of 7,000,000 in the event of war with France and Russia, and of 8,000,000 in the event of with France, Russia, and Germany, whom the State will have to feed.

If we lost command of the sea, then we must add together nearly the whole of classes *A*, *B*, *C*, *D*, *E*, and *F*, making a rough total of 20,000,000.

I am unable myself to see how these figures are much wrong. It is, of course, possible, that they may be over-stated. I have endeavoured to be moderate. At any rate they afford a basis for consideration, and show us the intense gravity of the situation, brought about by the congestion of modern industrial conditions since our last great war, that we may have to face.

It is a situation that requires to be prepared for, and that without delay.

How Things Stand at Present.

Our present position must be considered in the light of the various possible wars in which we may find ourselves engaged. Those who wish to realise how things stand should read the evidence carefully (not the Report only) given before Mr. Yerburgh's Private Committee on National Granaries in 1897. This evidence pointed out clearly our very dangerous position, and the necessity of some steps being taken by Government to minimise that danger. But such precautions would cost money, and it is therefore a question for the nation, and not for the Government only. As yet nothing has been done—*nothing*—and this ominous evidence has been airily dismissed as *ex parte* evidence, and the Report as an *ex parte* Report. It might be argued by some, perhaps, that the Report was an *ex parte* Report, but the evidence on which it was founded cannot be so lightly dismissed. For those who gave it were the highest authorities on

the corn trade, and they are of the same opinions still. If anybody should doubt this, let him go to the Baltic and talk to the leading corn merchants there, as to what they think of our present position. He will learn things which will cause him considerable alarm, and give his optimism a very severe shock.

Our total consumption of bread stuffs may be put at 29,000,000 qrs. annually, of which we produce 6,500,000, and import 22,500,000. Of the imported 22,500,000, 14,500,000 come from the United States and the Argentine, 5,000,000 come from Europe (almost entirely Russia and Roumania), and 3,000,000 from the British Empire.

I.—War with the United States and Russia Combined.

This is the first combination to consider, as the most dangerous. Such a fratricidal struggle as a war between the two great branches of the Anglo-Saxon race we all devoutly hope will never occur. But in a proper scheme of Imperial Defence we must take all human possibilities into account, for it is always the unexpected that happens. It is now only five years ago since a great party in the United States were clamouring for war with us. Mr. Marston in his book "War, Famine, and Our Food Supply," quotes a letter from Captain Mahan, in reply to one written, asking him if he thought that war was then possible. His answer was that terrible as the fact was, he could not hide from himself the conviction of its possibility. The Americans at that time looked to Russia as a possible ally.

Our total imports of wheat are 22,500,000, of which 14,500,000 come from America, 5,000,000 from Russia and Roumania, and 3,000,000 from the British Empire. So we are completely dependent upon Russia and the United States for our food. If they chose to unite against us, it would only be necessary for them, in the words of Mr. Seth Taylor the great miller, "to sit upon their stocks," and we should be forced to submit. Other countries could not help us. The British Empire only sends us 3,000,000 qrs. The total export of the Argentine is only from 6,000,000 to 9,000,000, and that is a very unreliable crop, owing to locusts and other severe reverses due to natural causes. India is equally unreliable, also owing to natural causes. We should be practically helpless. Is that a position in which, if sufficiently known, the people of this country would consent for a moment to remain? I think not.

II.—A War Against France and Russia Combined.

As regards this combination, I will quote a few extracts from the evidence given before the Committee on National Granaries by Mr. W. J. Harris, a very experienced authority on the corn trade, as representing the most extreme view of our danger. He stated:—"Now, I will suppose it was the intention of France and Russia to humiliate England. What would be their easiest course? Russia could stop all shipments to the United Kingdom from the Euxine. Meantime the French could quietly buy all the available wheat offering in other countries, and store it there. If you

look to the daily telegrams from the United States, you will see that they often sell from 1,000,000 to 2,000,000 qrs. in a day, both in Chicago and New York, and such operations scarcely affect the price. Three days' purchases would entirely prevent the United Sates sending us another ounce of wheat till the next crop was harvested. These purchases could be done secretly by unknown agents. If I were a Russian, I will suppose the French and Russian Governments appointed myself, for want of a better man, to act for them. If I were entrusted I think I could keep the secret. I would have an enormous credit, which the Russian Government could easily give, for they have a War Chest, I believe, of nearly £100,000,000 of gold. I would go to America and buy all the wheat I possibly could; I would act in Chicago, New York, San Francisco, and Minneapolis in one day. I would buy an enormous quantity, and I do not think my operations would occasion much comment, because in each of these places, at times, there is a corner tried, and it generally fails, and people would only think it was another corner being tried by some fools. If you went and *told* them that some particular Government was buying, they would not believe it. All sorts of canards are used by the bulls and bears there every day even now. I think you know that you can buy wheat, not only prompt and for the month's delivery, but also for delivery at several months ahead, and thus you could get all the available quantity, and thus stop any further shipments in the course of the year. That is to say, if you began about January, when the crop is partially exhausted, you would have no difficulty in buying up 6,000,000 or 7,000,000 qrs. in one day, and that alone would be sufficient to stop all further shipments for a long time. Again, the visible quantity in America in February usually consists of about 7,500,000 qrs. It would not be very difficult to buy up the whole of that. Even if I did not buy up all the wheat on the spot, even if I could not get it all, I could buy for the next month's delivery—that means the visible supply; and if I bought 7,000,000 qrs. of prompt wheat in February, and a good deal more for later delivery, I do not believe there would be any more sellers at any prices when my operations became known. Russia would not put her stop on till after I had operated, and this country would not know anything about it till I had acted. They would thus practically prevent this country getting anything like the supply that is necessary to keep the people from starving."

This extreme view is held by a practical man of long experience in the corn trade, and by other able men also of long experience; it is, therefore, impossible to ignore it. Especially as it was borne out, with modifications, by the vast majority of the corn trade authorities examined.

For instance, Mr. Charles Proctor, a leading corn merchant, said:—"It would be done in a day. You would know by the next morning's papers what had taken place; but by then it would be all over as regards the securing of a large quantity of wheat. I do not think it at all probable that such a thing *would* occur, but it *might* occur."

Mr. Seth Taylor, the great miller, than whom there is no more experienced operator on the corn markets, said:—"It *might* be done. I think it would be difficult to do without the concurrence of the Govern-

ment of the country in which it was done. I think it would be a very difficult process to go on without our knowledge, and without our putting in a bid for the wheat. Prices would be enormously increased." Again, Mr. Bridges Webb, President of the London Corn Trade Association for the fourth time, whose high authority all must admit, said that he considered such a combination, as Mr. Harris referred to, *possible* with sufficient capital, but not probable. He considers that our own corn merchants would get wind of it by telegraph and be in the struggle. It would be an affair of money. He considers that the result anyhow would be to drive prices up to famine heights.

The nett result of the evidence given appears to be that such an operation as Mr. Harris speaks of is undoubtedly possible, at any rate, to a certain extent. The broker acting for France and Russia would be able to get half a day's start of us by taking advantage of the difference in time between this country and America, which is six hours' difference. Our offices close at 6 o'clock, when it is 12 noon in America, so if he began to operate after 12, we should hear nothing of it till next morning (if he went to work cautiously), by which time he could have bought an enormous quantity, operating in all the chief wheat towns simultaneously. Then we should get on to the market, and it would become an affair of money. Whoever gave the longest price would get the remaining futures. Many would be unable to fulfil their contracts, many would break their contracts, and sell to the highest bidder. It would be the interest of France and Russia to drive prices up—it would also be the interest of our corn merchants, so as to make the biggest profits. The general result of this struggle for the futures would be to drive prices up enormously, to 100s. a quarter, or perhaps more, the average price being about 35s.; which, as far as our poorer classes are concerned, would be starvation prices. So that though France and Russia might fail in their effort to buy up all the American wheat, yet, by such an attempt even, they would certainly produce starvation price of bread in this country. And this they could do without risking a ship. They know this as well as we do. So it is ridiculous to assert that they would not try. It is a military maxim that you must always expect your enemy to do the best and wisest thing—and must prepare accordingly. So we must assume that France and Russia *will certainly* attempt to corner the American wheat.

We know the great corner that Mr. Leiter made, driving prices up nearly double. By what he did, we can gauge what a broker with France and Russia behind him could do. This is the first step that France and Russia would take. The second step would be the closing of all exports of food-stuffs from the Euxine. The third step would be the declaration of hostilities, and the war upon our commerce. How far the projects of Admiral Aube and his school would succeed, it is impossible to say. I will not venture an opinion. I will merely quote the evidence of Mr. Lyle Smith, a great corn merchant, that the seizure of a few ships by privateers would have an enormous effect upon the rates of insurance, and cause a great increase in the price of food, etc. Therefore, France

and Russia, without sending a single ship to sea, could raise bread by financial operations only to prices quite beyond the purchasing power of our poor, and they could further drive them still higher by the capture of a few ships by privateers. Whether we could continue the war if the masses of the towns were starving, or whether the consequent internal commotions would force us to make peace, is a doubtful point. The great and pressing danger, in which we thus stand, is undeniable.

III.—War Against Germany, France, and Russia Combined.

This must be considered under two aspects:—

1.—If our present naval policy of keeping our Navy on a two-Power scale only, is adhered to.

2.—If our naval policy is enlarged so as to make and keep our Navy on a three-Power scale.

According to our present naval policy of a two-Power scale, we shall, ten years hence, be equal to France and Russia combined; but Germany will then hold the balance with a fleet of 38 battle-ships, a fact which by many people appears to be totally disregarded.

Our naval policy being based on this two-Power scale appears to have bred a curiously unreasonable idea in the minds of many people that we shall never be attacked by more than two Powers. But that does not by any means follow. To think that we shall never be attacked by more than two Powers is a very comfortable idea no doubt, and one well suited to the exigencies of Party Budgets; but it is not in accordance with the teachings of history, nor with the signs of the present time, nor with the dictates of common sense. Why should we never be attacked by more than two Powers? In the past, Prussia has had to face a combination of three Powers; France has had to face a combination of all Europe; Russia has had to face a combination of three Powers. We ourselves have had to face a confederation before now. Why then should we be so specially favoured by fortune in the future as never to have to face a combination of more than two Powers? Hated by all; supported solely by our fleet; we stand in the way of the colonial and commercial expansion of all: we have what they all desire; the possible causes of quarrel are many. And Lord Salisbury, in his speech at the Albert Hall, last year, with his unrivalled experience of foreign politics, has warned us of the possibility of such a great combination against us in the memorable words: "Lest all these be united in one great wave to cast upon your shores."

Our scheme of Imperial Defence should therefore be prepared against a possible combination of Germany, France, and Russia. If we are prepared for the greater danger, we shall be prepared for the lesser.

It is accordingly here so regarded, and in this paper it is assumed that we may (as is openly discussed on the Continent) be attacked by a combination of Germany, France, and Russia.

Under such circumstances, according to the present naval programmes, it is manifest that the allies will be superior at sea by the

numbers of the German Navy, *i.e.* in 1910, by 38 battle-ships. Against such a superiority of 38 battle-ships it is also plain that our fleet may suffer a disaster, may be defeated by superior force, and may be driven into port. This is undeniable. From this it follows, equally undeniably, that our Navy should be at once enlarged and kept on a three-Power scale, with a strong North Sea squadron to balance the new German Navy.

The necessity for such a North Sea squadron is so plain, that it is to be presumed that the naval authorities will succeed in obtaining it.

But even if the three-Power scale be adopted, still there remains as usual the unknown factor of the action of the Treasury, whenever the pressure is removed. After our late alarming experience of the extraordinary delay in carrying out even our modest two-Power scale, we can have no confidence that a three-Power scale, with its largely increased expenditure, will always be carried out.

Taking, however, a sanguine view, assuming that a three-Power scale is obtained, and is loyally carried out; yet, even then, we shall only be equal in force to the allies, so that there will still remain the possibility of naval disaster. For the conditions of naval warfare are now so complex, so much depends upon machinery and scientific skill, in which we have no longer a monopoly, that, given a battle between two fleets of equal strength, it is impossible to *guarantee* that we shall be victorious. A few lucky torpedoes, a few lucky rams, a few lucky high-explosive shells, might decide the issue against us. In his book on "National Defence," General Maurice states:—"I at Aldershot a few years ago publicly put the question to two of our ablest sailors, whether they either of them felt confidence, or believed that anyone else whose judgment could be relied on did, as to the outcome of the next great naval engagement. They both of them frankly avowed that the complications of the problem were too great for any human foresight."

It is, therefore, plain that even if our Navy be placed upon a three-Power scale, there will still remain the possibility that it may be defeated. With this possibility we must, therefore, also reckon. Our combined enemies would then obtain command of the sea, with all that that means. They could then either invade us with a force of 400,000 or 500,000 men, or they could starve us into submission by a blockade, partial or fairly complete, as the case might be. On to the vexed question of blockade, bristling as it is with thorny naval, commercial, and political considerations, I will not venture. I will merely point out the certainty that if we lost command of the sea, insurance and freight rates, and the price of raw materials, would go up so enormously as to destroy all hope of manufacturers' profits, so that most of our manufacturers would close, and the greater part of our industrial population would be thrown out of work, wageless and starving. And as one of our leading admirals, whose opinion I asked on this question the other day, summed up:—"If once the fleet is defeated, you will have to rely for your food supply upon what you have got in this country."

No single country, except perhaps Russia, will risk a war with us, as they have too much to dread from our fleet. It is a combination that we

must fear, as Lord Salisbury has warned us. From the preceding brief survey of our position against each of the possible combinations, we see that in our present totally unprepared and unorganised state:—Firstly, if the United States and Russia choose to combine against us, they will have nothing to do but simply "to sit upon their stocks," and we must submit or starve. Secondly, if France and Russia united it is possible for them, by cornering the American wheat, or even by attempting to do so, and by forbidding all exports of food-stuffs from the Euxine, to at once raise provisions to famine prices in this country, and to drive them up still higher by capturing a few merchant-ships by their commerce-destroyers; whereby, with a starving and rioting population, we might be compelled to submit, even though we held full command of the sea. Thirdly, that this would be the case still more if Germany, France, and Russia united, with the added extreme probability that the allies will defeat our fleet if it is kept at a two-Power scale, and the possibility that they may defeat it even if it is raised to a three-Power scale, and thus prevent any sufficient supply of provisions reaching us even at famine prices.

This is our present position. And I think that all will agree with me in saying that it could not possibly be a worse position. It is no fancy picture, but the sober truth. When I began this enquiry, I did so with no idea that I should be gradually forced to such a conclusion. But I can see no other conclusion which it is possible to arrive at. There remains only to honestly face it, and to devise a practical remedy.

The first step is to get as many people as possible to realise our true position, in the hope that they will arouse public opinion and induce the Government to adopt the remedy. I am therefore endeavouring to-day to place before you *the naked truth*, divested of the coverings of sophistical rhetoric and flippant optimism, which have so long hidden it from the public eye, *in all its appalling reality*. And I can safely defy anyone to much upset the figures which I produce in proof.

Food Supply Actually in the Country.

In the event of our being forced to rely for our food supply upon our own home resources, let us consider what amount of food there actually is in the country at any particular time of year, and how long it would last us at our present rate of consumption. I shall only consider the necessaries of life, bread, meat, potatoes, oats, and barley, for the luxuries of life, such as other vegetables, groceries, fish, game, poultry, butter, cheese, tea, milk, etc., would at once go up so enormously as to be quite beyond the reach of the masses.

Putting aside the probable prohibitive prices even of the necessaries of life, I will consider only the actual amounts available. I will not weary you by reading out the long array of figures and calculations showing how the results are arrived at, but will merely give you a brief summary. The tables themselves are printed with this paper for after consideration. They are all calculated on an average, on a five years' basis from 1895 to 1899. They have been most carefully compiled,

partly from the Agricultural Returns of the Board of Trade and from the Statistical Abstract of the Trade of the United Kingdom, and partly from figures most kindly furnished me by Mr. Pittar, head of the Statistical Department of the Customs, and by Mr. Broomhall, Editor of the *Corn Trade Journal* and of the *Corn Trade Year Book*, than whom there can be no better authorities on the statistics required. Further, they have been checked by practical merchants, whose life-study has been the special grain given in the table they checked. Also I have used the tables given by Mr. Crawford in his paper "Notes on the Food-Supply of the United Kingdom, Belgium, France, and Germany," read before the Statistical Society in 1899. So I think they may be taken as correct on the whole. For instance, as a test, take wheat; the table here given would make wheat undelivered in farmers' hands on an average in January as about 3,800,000 qrs., and Dornbusch's Tables for 22nd January of this year shows wheat undelivered in farmers' hands as 3,600,000 qrs., which is practically the same thing. I mention this because it is no use quoting figures unless they are taken as reliable.

Bread-Stuffs.

First as regards bread. Our total annual consumption of wheat averages 29,000,000 qrs., of which we produce 6½ and import 22½ (minus the exports). Our average monthly consumption is as under :—

Table I.

Average Monthly Consumption of Imported Wheat and Flour, and of our Home-grown Wheat.

	Qrs.
Average Monthly Import of Wheat	1,347,000
Average Monthly Import of Flour expressed in Wheat	568,500
Average Monthly Consumption of Home-grown Wheat	584,500
Average Monthly Total Consumption of Bread-stuffs (including 11,700 qrs. exported)	2,500,000

Table II.

Import of Wheat, shown by Months.

(1) Average Total Import for the 5 years 1895 to 1899, each year ending December 31st. 69,276,025 cwts. = 16,164,406 qrs. Corn Measure.

(2) Average Monthly Imports during the 6 months preceding the Harvest from March 1st, 1895, to August 31st, 1899.

Months.	Cwts.	Qrs.
March	5,659,582	1,320,569
April	5,390,592	1,591,138
May	5,612,594	1,309,605
June	7,221,318	1,684,974
July	6,746,740	1,574,306
August	6,129,494	1,430,215
Average for the 6 months	36,760,320	8,910,807

Table II.—contd.

(3) Average Monthly Imports during the 6 months following the Harvest from September 1st, 1895, to February, 1900.

Months.	Cwts.	Qrs.
September	5,149,382	1,201,522
October	5,887,832	1,373,827
November	5,934,074	1,384,617
December	5,610,270	1,309,063
January	5,140,636	1,199,481
February	4,078,796	951,719
Average for the 6 months	31,800,990	7,420,229

Table III.

(1) Imports of Wheat and Flour divided into Imports from European sources (presumably hostile), from American (presumably friendly), and from the British Empire.

	Wheat.		Flour.	
	Cwts.	Qrs.	Cwts.	Qrs. of Wheat.
Imports from Europe ...	17,882,000	4,172,466	2,543,386	847,795
Imports from America ...	39,978,342	9,328,279	15,883,933	5,294,644
Imports from British Empire	11,415,742	2,663,673	2,079,100	693,033
Totals	69,276,084	16,164,418	20,506,419	6,835,472

(2) Imports minus Exports.

	Qrs.
Total Imports of Wheat and Flour from all sources	22,999,872
Total Exports of Wheat and Flour	140,000
Total Imports minus Exports	22,859,872

Authority: "Statistical Abstract of the Trade of the United Kingdom."
The averages are calculated on a 5 years' basis—1895 to 1899.

Table IV.

Average Amount of Wheat Undelivered in Farmers' hands at any time of year showing how the result is arrived at.

Qrs.	
6,860,438	Average Crop, minus Seed, 1895 to 1900.
+16,164,476	Average Imports of Wheat, 1895 to 1899.
+6,822,133	Flour (expressed in Qrs. of Wheat).
12 29,847,047	Average total yearly consumption (Food and Exports).
2,487,254	Average monthly consumption (Food and Exports).
6	
14,923,524	Average consumption in 6 months (of Crop and Imports).
−11,408,905	Average Imports of Wheat and Flour in the 6 months, September to February.
3,514,619	=6 months' consumption of Crop, September to February.

Table IV.—contd.

6,860,438	Original Crop, minus Seed.
−3,504,605	Crop consumed, September to February.
3,300,000	Crop left at end of February (roughly).
7,456,755	Total consumption (Crop and Imports) in March, April, May.
−6,026,845	Imports of Wheat and Flour during March, April, May.
1,400,000	Crop consumed in March, April, May.
3,300,000	Crop left at end of February.
−1,500,000	Crop consumed in March, April, and May.
1,800,000	Crop left at end of May (roughly).

NOTE.—By taking the amount of the Crop left in September, February, or May and working backwards or forwards at a rate of 580,000 qrs. consumption, an average of Wheat undelivered in Farmers' hands (roughly) at any other month in the year can be obtained.

If, therefore, blockade (I use the word blockade for shortness), as including any means whatever, by financial or naval operations, by which we might be thrown on our own resources) were established immediately after harvest, there would be available on an average :—

Qrs.	
6,500,000	Crop minus Seed.
500,000	Old Wheat in farmers' hands.
2,000,000	Merchants' Stocks at the Ports.
1,500,000	Millers' Stocks.
1,000,000	Bakers' Stocks.
1,000,000	Afloat, as certain out of 2,000,000 qrs. afloat.
12,500,000	

Our present rate of consumption is 2,500,000 qrs. monthly, which gives us after harvest not quite six months' consumption. Suppose enhanced prices reduced the consumption one-fifth, or down to 2,000,000 qrs. monthly, then we should only have 6¼ months' supply. In neither case could we last out till next harvest.

If blockade were established six months after harvest, at beginning of March there would be available :—

3,300,000	of crop undelivered in farmers' hands,
+ 6,000,000	Stocks, as above, and afloat,
9,300,000	

which, at the rate of consumption of 2,000,000 qrs. monthly, would give us 4½ months' supply. We could not last out till the next harvest.

If blockade were established 9 months after harvest, in June, three-quarters of the crop would have been marketed, so there would be :—

1,500,000	Wheat undelivered in farmers' hands,
6,000,000	Stocks and afloat,
7,500,000	

or 3½ months' supply at 2,000,000 qrs. monthly, or till next harvest, when we should get another 3 months' supply, or 6 or 7 months' all told.

MEAT.

As regards our supply of meat, we are in a very good position, for our average home production is equal to nearly double the imports, although we only kill about one-third of our live stock each year, the other two-thirds being reserved for store and milk and breeding purposes. If necessary we could kill a second third without interfering with the breeding.

Table V.

Meat Supply.—Annual Consumption.

Period.	Average Annual Home Production.	Average Annual Import. Alive & Dead.	Average Annual Total Supply.	Supply per head of Population.		
	Tons.	Tons.	Tons.	Home.	Imports.	Total.
1892-94	1,385,000	667,000	2,052,000	81	39	120
1893-95	1,374,000	689,000	2,063,000	79	40	119
1894-96	1,388,000	787,000	2,175,000	79	45	124
1895-97	1,393,000	871,000	2,264,000	79	49	128
1896-98	1,397,000	953,000	2,350,000	78	54	132
5	6,937,000	5 3,967,000	5 10,904,000	5 396	5 227	5 623
Average	1,387,000	793,400	2,180,000	79	45	124

"The home production is based on the assumption that for every 1,000 living cattle of all ages, enumerated annually for the purpose of the Agricultural Returns, about 67 tons of beef and veal are available for consumption in a year; for every 1,000 living sheep enumerated 12½ tons of mutton and lamb; and for every 1,000 living pigs enumerated 69½ tons of bacon, ham, or pork.

The weight of dead meat represented by imported live animals has been calculated upon the average weight of meat represented by each description of animal imported." (Extracted from "Notes on the Food Supply of the United Kingdom, Belgium, France, and Germany," a paper read by Mr. Crawfurd before the Statistical Society, 1899.)

Table VI.

Meat Supply.—Home-grown Live Stock available.

Species.	Number.	Average Weight (all ages). lbs.	Total lbs. of Meat.
Cattle	11,000,000	500	5,500,000,000
Sheep	31,000,000	50	1,500,000,000
Pigs	3,700,000	100	370,000,000
			7,370,000,000

NOTE.—Average weight obtained from practical butchers, farmers, cattle merchants. One-third is usually killed, one-third for store purposes, one-third for milk and breeding purposes.

We see, therefore, that there are about 3,290,000 tons of meat in the Kingdom if we chose to kill it all, and that the total yearly supply of home and imported meat only = 2,180,000 tons, or not quite two-thirds of our live stock. So that we could supply the whole country for a year by killing two-thirds of our live stock, without touching those reserved for breeding purposes. After a year we should have to kill the breeding animals. All this is supposing, of course, that the live stock received their usual food, and kept their usual weight.

Potatoes.

As regards potatoes our position is best of all, for it is the only article of food in which our production practically equals our consumption, the imports being relatively so small as hardly to count. The following table of Mr. Crawfurd shows this :—

Table VII.

Potato Supply. Annual Consumption.

Period.	Average Annual Home Production. Deducting Seed.	Average Annual Net Imports.	Average Annual Available Supply.	Supply per head of the Population.
	Tons.	Tons.	Tons.	Lbs.
1892-94	4,833,000	83,000	4,916,000	286
1893-95	5,313,000	102,000	5,415,000	313
1894-96	5,217,000	116,000	5,333,000	365
1895-97	5,040,000	146,000	5,186,000	294
1896-98	4,773,000	197,000	4,970,000	280
5	25,176,000	5 644,000	5 25,820,000	5 1,538
Average	5,035,200	128,800	5,164,000	307

Oats.

As regards Oats, we import rather more than one-fifth of our total supply, so we are not in a good position.

If blockade were established immediately after the harvest, there would be available :—

152,578,000 bushels. Average Crop minus seed.
15,000,000 ,, Stocks of merchants and millers and on passage.

167,578,000

The average monthly consumption is 16½ million bushels, so there would only be ten months' supply. We could not last till the next harvest. In February there would be :—

78,000,000 bushels of crop left in farmers' hands,
15,000,000 ,, Stocks of merchants and millers and afloat,

93,000,000

or six months' supply. So we could just last till next harvest.

In May there would be :—

35,500,000 bushels of crop left in farmers' hands,
15,000,000 ,, stocks of merchants and millers and afloat,

50,500,000

or three months' supply. It would last us till next harvest, when we could get another ten months' supply, making 13 months in all.

Table VIII.

Amount of Oats available at any time of year in Farmers' hands.

152,578,275	bushels.	Average Crop minus Seed, 1895 to 1900.
+42,275,876	..	Import of Oats, 1895 to 1900.
+ 3,434,507	..	Import of Oatmeal (expressed as Oats), 1895 to 1900.
12 198,288,658	..	Total yearly average consumption.
16,524,054	..	Average monthly consumption.
6		
99,144,324	..	Average consumption in 6 months.
−24,768,166	..	Imports in 6 months (22,889,966 Oats + 1,878,200 Oatmeal).
74,386,158	..	of Home Crop consumed in 6 months, September to 31st February.
152,578,275	..	Original Crop minus Seed.
−74,386,158	..	of Crop consumed in 6 months, September to 31st February.
78,192,117	..	of Original Crop left in Farmers' hands at 31st February.
49,572,162	..	Three months' total consumption.
− 6,973,698	..	Three months' imports of Oats and Oatmeal, March, April, [May.
42,598,464	..	Crop consumed in March, April, and May.
78,192,117	..	left in Farmers' hands at end of February.
−42,598,464	..	Crop consumed in March, April, and May.
35,593,653	..	left in farmers' hands at end of May.

Imports of Barley and Oats.

Table IX.

(1) Average Total Yearly Import for the 5 years 1895-99, each year ended December 31st.

Barley.	Oats.
21,340,254 cwts.	16,087,296 cwts.

(2) Average Monthly Imports during the 6 months preceding the Harvest, from March 1st, 1895, to August 31st, 1899.

Months.	Barley.	Oats.
	Cwts.	Cwts.
March	1,564,486	895,342
April	1,112,049	931,700
May	1,204,066	1,230,494
June	1,513,884	1,670,282
July	1,394,234	1,722,070
August	1,275,526	1,543,652
Average for 6 months	8,064,245	7,993,540

Table IX.—contd.

(3) Average Monthly Imports during the 6 months following the Harvest, from September 1st, 1895, to February, 1900.

Months.	Barley.	Oats.
	Cwts.	Cwts.
September	1,923,138	1,445,888
October	2,857,922	1,458,712
November	2,744,409	1,611,396
December...	2,335,555	1,420,302
January	1,769,870	1,262,276
February	1,452,790	976,414
Average for the 6 months	13,083,684	8,174,988

Authority: Statistical Office, Custom House.

The averages are calculated on a 5 years' basis, 1895 to 1899.

BARLEY.

The barley is a rather difficult crop to estimate, for there is no regular average consumption monthly, but it disappears by great gulps at the time of the various brewings, and for distilling purposes. The following table gives as near as possible what there would be at the various times of year.

Table X.

Amount of Home-grown Barley undelivered in Farmers' hand at various times of the year.

67,341,000 bushels. Average Crop minus Seed for years 1895 to 1900.
47,802,000 ,, Average Annual Import ,, ,,

115,143,000 ,, Annual Consumption.

Of the home crop about half, or 33,670,500 bushels, would be sold and malted by the end of January.

$\frac{33,670,500}{6}$ = 5,728,416 bushels may be taken as a very rough estimate of the monthly consumption of crop during the first six months following.

33,670,500 bushels of crop left in Farmers' hands at the end of January.
22,670,500 ,, sold and malted during February and March.

11,000,000

All this 11,000,000 bushels would be sold during April and early May, leaving nothing of the home crop at end of May.

If blockade were established immediately after harvest, there would be:

67,341,000 bushels crop, minus seed.
10,000,000 ,, in stocks of merchants.
2,000,000 ,, on passage.

79,341,000

This would be enough for about eight months' supply.

If blockade were established at the end of January, there would be:—

33,670,000 bushels undelivered in hands of farmers,
12,000,000 ,, Stocks of merchants and afloat,

45,670,000

or enough for about three months' supply; not to last till harvest.

If at the end of May, there would only be the stocks and orders.

10,000,000 bushels stocks of merchants,
2,000,000 ,, afloat,

12,000,000

or just about enough for three months' of the reduced consumption, as the brewing would have ceased to require any, and the only demand would be for feed-barley.

Table XI.

Imports of Meat, Oats, Barley, and Potatoes, divided into Imports from European sources (presumably hostile), American sources (presumably friendly), and from the British Empire.

——	Meat.	Oats.	Barley.	Potatoes.	Oatmeal.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Imports from Europe	2,261,326	8,938,818	18,098,254	3,164,163	5,531
Imports from America	11,336,538	5,723,654	3,094,432	*Nil.*	590,540
Imports from British Empire	4,033,067	1,424,824	147,598	1,202,782	101,024
	17,611,931	16,087,296	21,340,254	4,366,945	697,095

Authority: "Statistical Abstract of the Trade of the United Kingdom."
The averages are calculated on a 5 years' basis, 1895 to 1899.

Maize, Indian Corn, Etc.

In emergency, a certain amount of other grains would be obtained, but not to an appreciable extent. Such grains are not kept in stock, but as soon as they are imported are dispersed throughout the country, to farmers, brewers, etc. So we could only depend upon the amount at the ports of arrival, and the amount on passage, the latter, of course, being a somewhat uncertain quantity.

Table XII.

Average Annual Import of Grains other than Wheat, Barley, or Oats.

——	Rye.	Maize and Indian Corn.	Maize and Indian Corn Meal.	Buck-wheat.	Other Grains.
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
Average Import ...	441,832	51,878,492	2,898,000	155,134	517,674

Total yearly Import of all these grains together: 55,891,123 cwts. annually. 4,657,694 cwts. monthly. 1,000,000 qrs., corn measure, monthly.

Authority: "Statistical Abstract of the Trade of the United Kingdom."
The averages are calculated on a 5 year basis, 1895 to 1899.

The stocks of maize at the ports of the United Kingdom was, on the 1st January, 1900, 832,905 qrs., and on January 1st, 1901, it was

460,872 qrs. As an average we can probably take it to be about 500,000 qrs. in stock at the ports, and about another 500,000 qrs. afloat. Which, at a pinch, if added to the bread-stuffs, would give us a further fortnight's supply, at present rates of consumption.

From the foregoing survey of the amount of the necessaries of life actually in the country at any time of year, it is possible to put our capacity, in our present unorganised state, for lasting out, to be as follows :—

Table XIII.

Length of Time to which the Necessaries of Life actually in the Country would last, if we were thrown on our own resources.

Time of Year.	Bread.	Meat.	Potatoes.	Barley.	Oats.
(1) Blockade established directly after Harvest	6¼ months' supply.	1 year.	1 year.	8 months, roughly.	10 months.
(2) Six Months after Harvest	4½ months'	1 year.	1 year.	3 months.	6 months.
(3) Nine Months after Harvest	3½ months + new crop or 7 months all told.	1 year.	1 year, or till next Harvest.	2 or 3 months of Feed Barley only.	3 months, or till next Harvest.

From which it will be seen that the most favourable time for us would be in the early summer, the least favourable the winter, and then the autumn would also be very unfavourable. We may summarise the matter and call it, roughly, four-and-a-half months' supplies in the country, at any time, or five months. This is better than many people suppose, but it is bad enough to make one wonder how such a state of things can be allowed by the country to continue for a moment.

How Long we Ought to be Able to Last.

Having seen how long, in our present unorganised condition, we *can* last, the next question is how long, in a properly organised condition, we *ought* to be able to last. This is a naval question. Captain Mahan has pointed out that when the opposing Navies are evenly balanced (as will be the case with us in a conflict against Germany, France, and Russia, if our fleet is put on a three-Power scale), the victory in naval warfare will ultimately rest with that side which has the greatest resources for rapid naval repair and reinforcement. The output from our ship-building yards, public and private, is 75 per cent. of the whole world's output, so that our resources for naval reinforcement in time of war, are far greater than those of any possible combination. Herein lies a source of great reserve strength, which should secure us the ultimate command of the sea—if we can only obtain the time required to utilise those resources.

Our Navy is our first line of offence and defence. It is also, Great Britain being regarded as the Fortress of the Empire, our relieving force, for upon its ability to ultimately regain command of the sea, even if a naval disaster has occurred at first, our final salvation must depend. This is universally admitted. Therefore, our scheme of Imperial Defence should be so arranged that, even if the fortune of war should send us a naval disaster, we can guarantee the Navy the time it will require to so strongly repair and reinforce itself, that it will be able to regain command of the sea. Opinions may perhaps differ as to the probable duration of naval warfare, and the consequent relative importance of this principle. But I would point out that the duration of the war will probably depend upon who wins the opening naval battle or battles. If our Navy is victorious at the outset, then perhaps our opponents, with little to lose, may give in and make peace on fair terms. But if we, with everything to lose, are defeated, it is not to be supposed for a moment that we should submit to the terms which would be imposed by a combination of spoliation, the payment of a war indemnity of £800,000,000 or so, the giving up of our fleet, and of our coaling stations, and perhaps of our Crown Colonies. On the contrary, we should fight as the French fought against all Europe in the early Revolutionary Wars, determined to win in the end, at whatever sacrifices, and we should not submit unless we were invaded and conquered, or compelled by actual starvation. We should hang on, and trust to our Navy to eventually come to the rescue, and regain command of the sea. Therefore, if we were well provisioned and garrisoned, war might well drag on for two years, or even three. Meantime, our unrivalled resources for naval reinforcement would enable us to repair damages and reinforce our fleet quicker and more strongly than our opponents could do, which should give us the ultimate victory.

The question of our resources for naval reinforcement in time of war, of our shipbuilding, and machinery, guns, and armour-producing capabilities, has been exhaustively gone into by Captain Robinson in "Brassey's Naval Annual" for 1894 and 1895. As a general summary of Captain Robinson's enquiries, supplemented by a few of my own, it appears that (the public dockyards being regarded as fully occupied in repairing damaged ships, etc.) the private yards are capable of building in 6 months a large fleet of torpedo-boat destroyers; in 15 months a fleet of 84 swift cruisers; and in about 2 years, working at express speed and regardless of cost, a fleet of 20 battle-ships. I say regardless of cost, because there can be no doubt that in such desperate straits, with £800,000,000 war indemnity as the only alternative, the nation would be prepared to pay anything, 50, or 100, or 200 millions, for naval reinforcement, if necessary.

This gives us the measure of the *time* that we must arrange in our scheme of Imperial Defence to guarantee the Navy in the event of disaster, so as to enable it to utilise, to the fullest extent, our unrivalled resources for naval reinforcement, and thus to eventually raise the siege of the British Isles and regain command of the sea.

We have now seen how long we can last as at present organised, namely *4½ or 5 months*, and also how long we ought to be able to last if properly organised, namely, *2 years*. To guarantee this 2 years as far as regards our food supply, whatever happens, should be the task of a Food-Supply Department. It will be difficult, but it can be done, if proper preparations are made beforehand during peace, and a proper organisation be adopted.

Remedies that have been Proposed.

In the evidence before Mr. Yerburgh's Committee various remedies for our present dangerous position were proposed. These remedies may be divided roughly into :—

1. A reserve of wheat, 10,000,000 or 12,000,000 qrs., kept in State granaries.
2. A reserve of wheat kept in merchants' or millers' hands, in return for a subsidy or bounty from the State.
3. A reserve of wheat kept in farmers' stacks by a bounty on the amount of wheat in stack at the end of the cereal year.
4. The growing of a larger amount of wheat in this country to be encouraged by making it fairly profitable to grow wheat, *i.e.*, by a bounty per acre cropped or per quarter raised, or by a sliding scale duty on foreign wheat which would prevent it coming in under 35s. or 40s. a quarter.
5. Then there is a fresh scheme for a reserve of wheat since thought out by Mr. Mullins, one of the managing directors of the great firm of Messrs. Spiller and Baker. He is present to-day, and will perhaps explain it afterwards.

Those who wish to understand the question should carefully read the evidence given before Mr. Yerburgh's Private Committee, where they will find the matter discussed by men who knew all about it. For me to attempt to adjudicate between the merits and advantages of the various schemes, all proposed by men of practical experience and knowledge in the corn trade and in agriculture, would be absurd. It is a task which can only be achieved, and should certainly be attempted, by a Royal Commission. I can only say that one of them should certainly be adopted as soon as possible. For our position tends to become worse, and not better. At present we depend even for our precarious five or six monthly supply largely on the stocks held by merchants, millers, and bakers. At present these stocks taken together average roughly 5,000,000 qrs., but the tendency of to-day is for these stocks to decrease, not to increase, for merchants and millers are getting more and more into the habit of buying wheat in America for future delivery instead of buying it now and keeping it in stock in this country. They thereby save the cost of storage. In other words, the tendency is for them more and more to hold their stocks in the American elevators rather than in this country. Mr. Broomhall, editor of the *Corn Trade Journal* and of the *Corn Trade Year Book*, gave in evidence that if this tendency continues we

shall reach, before so very long, the irreducible minimum on which the corn trade could be carried on in this country, namely 3,000,000 qrs. That is, that before long, we shall have even one month's less food supply in the country than we have at present.

In view of this tendency it becomes of altogether vital importance that the best remedy should be speedily selected and adopted, for we are going from bad to worse. There can be no reason whatever why a Royal Commission should not be appointed to settle which scheme is the best. That a remedy is necessary now, and will be still more necessary soon, there can be no doubt in the mind of any man who takes the trouble to investigate the question.

The necessity for a remedy is so plain and manifest, that we *must* assume that Government are considering the matter, and that we may expect to see a Royal Commission appointed soon. It is nearly impossible to believe otherwise.

The Royal Commission, it is devoutly hoped, will investigate this question so as to discover the best means of securing us a greater supply of food-stuffs, and at the same time of checking the rapid depopulation of the country. These two *desiderata* can well be treated so that each shall produce the other.

Various remedies, with this end in view, which were proposed in the evidence given before Mr. Yerburgh's Committee, have been spoken of as Protection, as if they were thereby ruled out of court. But let us free our minds from all such bias. Protection and Free Trade—what are they but words, cries to catch the thoughtless? For Trade—what is it but Barter? And Barter—what is it, but the practical application of the motto *do ut des?* National trade policy, like every other policy, must be elastic and able to adapt itself to circumstances. It is ridiculous to lay down a formula under certain circumstances, and then to apply that formula without discrimination to all other circumstances that may ever arise. Is it reasonable that carefully thought out proposals adapted to meet the needs of the present day should be summarily dismissed because they do not square with the shibboleth of a bye-gone generation? Let us not be so biassed by the ghosts of the past. Let the past bury its dead—but not bury us. Looking at things simply as they are, without any theoretical bias, aiming solely at the permanence and vigour of the British race, I do not hesitate to say that I regard the intolerance of extreme Cobdenism, applied without discrimination to altered circumstances, as marvellously short-sighted. Money is a great Power, of course, but there are other things besides money that go to the greatness of a nation, to the *permanent* greatness. Money too eagerly sought, at the expense of those other things, brings a transient gleam of splendour indeed, for a generation or two perhaps, but it is followed by the darkness of ruin. That lesson is written broadly on the pages of history, in letters of dead Empires, as Carthage, and Rome, and Venice, and Spain, and Holland can tell us. Every virtue pushed to extreme becomes a vice. Moderation in all things is ever the rule of wisdom. But extreme Cobdenism scorns moderation, and is therefore dangerous to the Empire. Cobdenism has

done good work, no doubt, in the past, but, like everything else, it requires to modify its habits in response to an altered environment in the present. I regard extreme Cobdenism, pushed to the utmost regardless of altered circumstances, as a vampire which is slowly sucking the life-blood of the British race. The backbone of a nation is its peasantry, from which the towns can draw fresh supplies of good wholesome blood. Cobdenism is killing our peasantry. Slowly but surely it is depopulating the country, and driving the peasants into the already over-crowded towns. It is well-known that in three generations a town population unrejuvenated by a fresh infusion of country blood, degenerates physically and mentally. At present our towns are kept at a fair physical average by a constant stream of sturdy immigrants from the country. But what is to happen in 50 years hence or so, when this vigour-giving stream of peasant blood is exhausted, and when the depopulated country has no more men to send? Are we to become a race of pale, narrow-chested three-generation townsmen only, all heads and nerves? If so, where is our fighting class to come from? Who is to uphold the British Empire in the future? Even now it is hard to get a proper proportion of sturdy agricultural recruits, who, it is well known, make the best soldiers. And if a race degenerates, it will certainly be trampled on by one more vigorous.

So if a measure can be devised which will at the same time give us more food-stuff and keep the peasantry on the soil, even though it be called a protective measure—in God's name let us have it. Self-preservation is the first law of Nature and of nations. A numerous peasantry we *must* have. The depopulation of the country *must* be checked. Land under crops employs three times as many men as land under grass.

Just as the towns spend money to secure their permanent supplies of fresh water, so should they spend money to secure their permanent supplies of fresh blood. A million, or two millions, a year would be a cheap price for the State to pay for so great a benefit, so great a need. From the agricultural evidence before Mr. Yerburgh's Committee, it appears that such a bounty to agriculture would largely increase the area under crops, and thus keep the peasantry on the land. If it will not, then let us have the protective sliding scale to prevent foreign wheat coming in under 40s. a quarter. We can, of course, never again hope to produce all the wheat required for our population, but we could increase the area under crops by 50 per cent., if it paid to do so, and thus employ a far greater number on the soil.

It is earnestly to be hoped that the Royal Commission, when it assembles, will be able to devise a means of increasing our food supply, and preserving our blood-supply.

But that is for the future. To return to the present. The Royal Commission has not yet been appointed. It is almost incredible, but it is just possible, that it never will be. If it does assemble, the questions with which it will have to deal are so great and far-reaching that it will be long before its work is completed. Even then, so strange and unreasonable is our national procedure, in regard to all questions of Imperial Defence, the country may refuse to vote the annual million-and-

a-half or two millions necessary. And no Government will add such a permanent charge to the national expenditure till the matter has been completely sifted. So we can hardly hope for any large remedial measure as yet.

Meanwhile, the danger is at our doors. We have nearly been involved in European war two or three times within the last few years. And looking at the sullen attitude of the hostile nations around us, we cannot avoid the conviction that we may actually find ourselves involved in European hostilities before we are many years older.

Seeing that it is useless to hope for any immediate increase of our food-supply resources, and yet that the danger is immediate, and that the great obstacle is money (as usual), it only remains to devise a scheme whereby, with a minimum expenditure in peace-time, we shall be able to make the most of our existing resources in war-time, and thus avoid the present danger of being starved into submission. If it is sufficiently *cheap*, the country may be induced to sanction it. A scheme is required which will guarantee us from starvation, and which will cost so little that it can be started *at once*, without throwing anything which can possibly be called a burden on the Exchequer.

Working on this idea during the last six or seven months, I have prepared the following scheme, which I now place before you. It is only meant to be applied under desperate circumstances, and is based on the principle and belief that under such desperate circumstances the country will demand desperate measures in defence. It will give us the certainty of being able to hold out for 17 months, without any further supplies from over-sea, and that is what we want. For during those 17 months, if we only succeed, with the temptation of enhanced prices, in filtering in about one-quarter or one-fifth of our ordinary food supplies, that will enable us to last out for the required two years.

In the Report of the Committee of the House of Lords in 1801 on the Scarcity of Provisions they recommended that the consumption of bread-stuffs should be cut down by one-third, that brown bread should be substituted for white, and that the greatest economy should be practised as regards the giving of corn to horses. As then, so now. To enable Government to feed the masses who will be thrown starving on the streets in the event of European war, and to make our food supply available in the country last out, it will be requisite to rigorously restrict the present wasteful consumption of the necessaries of life. In considering the question of our food supply one is at once struck by the fact that the present importation of foreign food-stuffs is largely necessitated by the over-eating, the luxury, and the proverbial unthriftiness of our people, and the waste of the rich. For instance, the average monthly consumption of bread-stuffs is 2,500,000 qrs., but it would only take 1,390,000 qrs. to give every male over 10 a ration of $\frac{3}{4}$ lb. of white bread, every female over 10 a ration of $\frac{1}{2}$ lb., and every child under 10 a ration of $\frac{1}{4}$ lb. So that apparently nearly twice as much bread is used as is absolutely necessary. Manifestly, therefore, the first consideration, in order to make our food supply last out a blockade or a great corner in wheat against

us, is how to stop this over-eating, waste, and luxury. This can only be done if the State takes into its own hands the distribution of the necessaries of life on a fixed scale for each person. On any other system it would be impossible to prevent those who have money from buying more than their share. On no other system would it be possible to feed 20,000,000 starving, or nearly starving, people. There is no other way. The alternative is starvation, bread riots, revolution, submission to our enemies, and political and commerical extinction. Of the two evils we must choose the lesser, costly though it may be.

And the only way it can be done is to allow each person, rich or poor, to consume of our small store of the necessaries of life only so much as is absolutely necessary for fair health and strength; or, in other words, directly the fleet is defeated or a great corner of wheat worked against us, to proclaim a state of siege and put everybody, rich and poor alike, on a siege ration.

Only the necessaries of life to be thus dealt with; the luxuries, such as groceries, vegetables, fish, poultry, game, tea, milk, drinks, etc., to be left to adjust themselves. The necessaries of life are considered to be bread, meat, potatoes, barley, and oats.

But it may be objected that it is ridiculous to talk of putting a whole country in a state of siege, and a whole nation on siege rations; that the thing is impossible, and can't be done. On a cursory view of the subject it would doubtless appear so, but not on a deeper. To the civilian mind it may indeed appear impossible, but not to the military mind. For, as we all know, the essence of war lies in the overcoming of difficulties, in the adjustment of efforts to obstacles. If a difficulty presents itself it has to be overcome somehow. And we are all roughly familiar with the principle of mobilisation for war. So that the idea of mobilising our food supply in event of blockade, will, to the military mind, not appear so very difficult. That is all that is necessary: *in the event of blockade—mobilise our food supply*. The principle is exactly the same, namely, a small permanent staff engaged in making all preparations beforehand, capable in case of blockade of great expansion, with everything arranged beforehand to control and distribute the necessaries of life.

As the whole question of making our food supply last for the required 17 months, at the worst time of the year, turns upon our ability to control the consumption of the necessaries of life, and as nobody will take the least interest in the siege ration idea till they see how it can be applied practically, I will deal with the organisation first, merely premising that if this organisation be carried out we could make our available food supply last us for the required 17 months.

Now it is manifest that it would be perfectly useless to try and start such a gigantic organisation in time of war, *after* the corner in wheat, or the defeat of the fleet. Any such belated and foolish attempt could only end in failure, complete and deserved failure. For it will require careful previous preparation and time to get into working order, exactly as any scheme of Army mobilisation requires time. It will require to be very carefully thought out, studied, and organised by a special Food-

Supply Department, who will make all preparations in peace, exactly as the Headquarter Staff of an Army studies and prepares in peace for the mobilisation of an army in war.

The scheme which I am about to propose will demand the greatest self-denial and self-restraint and patriotism from all classes. This I assume as a reliable factor. I assume that if the Empire is attacked by a combination of Powers bent on spoliation, if our Fleet is defeated, and if for a time we lose command of the sea, that we shall not give in and submit to political extinction, but shall fight as the French fought against all Europe in the early Revolutionary wars, with an equal stern resolution to win at all hazards, and at whatever cost of money, of convenience, of desperate effort, and of blood. I assume an outburst of the most intense patriotism, resolved on the most extreme and desperate measures, so that we can hold out till our Navy is able to regain command of the sea.

I do not, therefore, propose any timid, paltering half-measures. I propose that the necessary preparations be made beforehand, so that if it becomes ever necessary to take these extreme and desperate measures, everything may be systematised and ready. For in such timely preparation beforehand lies the only road to success in modern war. The days when it was possible to "muddle through" a European war are gone for ever. Any such attempt could only end in ruin. It would be madness. I propose, therefore, the immediate establishment in peace time of the nucleus of a Food-Supply Department, so organised that it can, if necessary, at once expand to the dimensions required to take control and charge of the whole supply of the necessaries of life for the nation.

Rough Outline of a Food-Supply Department and its Organisation for Peace and War.

Personnel required during Peace.

A building with offices to hold 40 clerks. The country is divided into 160 sub-districts, of 250,000 inhabitants, which have to be organised. Each clerk to be given four such sub-districts, for which he is to draw up the Food-Supply Organisation on the lines laid down. Report to Chief Clerk or Head of Department. Approximate cost, about £15,000 a year. This cost would be nothing at all in the way of an addition to the national expenditure, and the value of the work performed would be incalculable.

Personnel required during Blockade Expansion.

One Controller-General of Food-Supply.

20 Chief-Controllers, each over a district of 2,000,000 inhabitants.

Each district to have eight sub-districts of 250,000 inhabitants, each sub-district under a Controller.

Each sub-district to be divided into 50 circles of 5,000 inhabitants, each under a Sub-Controller.

Each circle to have as many centres of distribution as may be required, according to the density of the population, probably two in the towns, and four in the country, say 8,000 in the country districts, and 12,000 in the towns—total 20,000, each under a distributor.

Total personnel required: One Controller-General, 20 Chief-Controllers, 160 Controllers, 8,000 Sub-Controllers, and 20,000 Distributors. This number is no more than there are in a great Department like the Post Office, and is quite capable of management.

How to Obtain the Required Personnel for Blockade Expansion.

A list to be made and kept up to date by the Peace Establishment, of leading men in each district, who, in the event of blockade and national emergency, would be willing to perform these duties. Printed instructions to be prepared and sent to each of them, so that they may know beforehand exactly what they will have to do if their services are ever required. There would be plenty of capable men found willing. For each district of 2,000,000, there would have to be found: 1 Chief-Controller, 8 Controllers, 50 Sub-Controllers, and 500 Distributors. If we lost command of the sea, so many commercial houses would have to close, that there would be plenty of capable managers and business men available, and glad to serve the country. A list should be made in each district, of great firms whose business depends on either imports or exports, and the managers asked whether, in event of blockade and a stoppage of all foreign trade, they would be willing to act as Controllers, or as Sub-Controllers of the Food-Supply. Then there are also many retired officials of the Home and Indian Civil Services, of great experience in public offices, and who would come forward to assist. Many country gentlemen would offer to fill these posts in the country districts, glad to serve the Empire. I do not think, if the Peace Department was once started, that there would be any difficulty in filling the lists for possible blockade expansion.

FOOD-SUPPLY DEPARTMENT.—WORK DURING PEACE.

An office with 40 clerks, each charged with the organisation of four sub-districts, of 250,000 inhabitants. Their work would consist of the following:—

1. Ascertain and tabulate localisation and storage of all food, meat, wheat, barley, oats, potatoes, and maize, in the United Kingdom.
2. Work out a scheme whereby the wholesale houses should, on proclamation of a state of siege, send their supplies, instead of to the retail shops, straight to the Government centres of distribution selected in each district.
3. Work out siege ration scale.
4. Prepare printed instructions for each district, sub-district, circle and centre of distribution.

5. Prepare a list of leading men in each district, who are willing, in event of blockade or a great hostile corner in wheat, to act as Controllers, Sub-Controllers, and Distributors.
6. Prepare a list of the 500 men, 500 women, and 250 children, who will have to be fed at each distributing centre, from the census returns and local authorities. (About 100 days' work or so for each clerk.)
7. Prepare a list of all firms dealing in bread, meat, barley, oats, potatoes, and keep it up to date, noting those firms which appear, and their capabilities, and those which disappear. For instance, there are about 200 great corn trade firms a head and shoulders above the rest, and about the same number of great milling firms. The rest may be classed as firms which appear and disappear.
8. Prepare the proclamations.
9. Continue to work out details till everything is tabulated, and systematised, and organised, and ready.
10. Keep it up to date.

Under a capable man this should give the Department about two years' work. At the end of those two years, everything would be prepared and organised, ready for an emergency. It is thus that a great nation, which intends to remain great, should be: Prepared for either fortune.

Food-Supply Department.—Siege or Blockade Expansion.

Immediately on defeat of the fleet, or the sudden springing on us of a great corner in American wheat, and the stoppage, simultaneously, of all exports of food-stuffs from the Euxine, the Peace Organisation will expand as follows:—

1. The previously prepared Royal Proclamation to be issued, declaring a state of siege. Ordering all sale of meat, wheat, barley, oats, and potatoes to cease in a week's time, and that Government agents alone will act as retailers of these necessaries of life in future. Ordering all wholesale houses dealing in these articles to supply Government only in future (at prices fixed by Act of Parliament, on a scale of fair war profits, say wheat at 80s. a quarter), according to Government requisitions which they will receive. All bakers, butchers, and private slaughter-houses, to be closed in a week's time, and their places to be taken by the Government centres of distribution. All retailers, whose shops are thus closed, to be employed as assistant-distributors at the Government centres of distribution. A list of the 20 districts, of the 20 Chief Controllers under the Controller-General, in whose name all food-supply transactions

are henceforth to be conducted, and to whom full authority is given to act in all such matters without appeal. This to be posted up in each town and village.

2. Beside it to be posted up a previously prepared Proclamation of the Controller-General of Food Supply, assuming control of all the necessaries of life, explaining generally the system of food supply, stating the 20 districts and naming the Chief Controllers in charge of each district.
3. Beside these a notice from the Chief Controller of the district giving further particulars, stating what sub-district the town or village is in, and under the authority of what Controller.
4. Beside these a notice from the Controller, giving further local particulars, and stating in what circle the town, village, or collection of streets is, and under the authority of what Sub-Controller.
5. Beside these a notice from the Sub-Controller of the Circle giving further local details, and stating to what Centre of Distribution each town, collection of streets, or village belongs, and under what Distributor.
6. Beside these a notice from the Distributor, with further local particulars, giving the names of the 500 men, 500 women, and 250 children (or by habitations if preferred) whom he has to feed, stating the siege ration on different days of the week, and detailing the hours of distribution, and when the centre will be open and when it will be closed.
7. The Controller-General will see that the previously selected 20 Chief Controllers proceed at once to their posts. Each Chief Controller will see that the selected Controllers of his district proceed to their posts, and the Controllers will see that the Sub-Controllers do so also, who in turn will see to the Distributors. Each Chief-Controller will report to the Controller-General, on receiving the reports of his subordinates, that the whole department in his district is ready to commence work. A week at the outside should suffice.
8. All the bakers, butchers, and private slaughter-houses to be then closed, and their owners employed at Government pay as Assistant-Distributors.
9. Each Sub-Controller to send a weekly ration indent for his circle of 5,000 to the previously arranged wholesale houses, according to the previously printed instructions, and on the previously printed forms. Also a weekly report and summary to his Controller, who will report weekly to his Chief-Controller.
10. The supplies thus indented for to be sent straight from the wholesale houses to the centres of distribution. No other issues whatever allowed, under severe penalty.

11. All persons, or their representatives, belonging to each centre of distribution, to attend at stated hours on stated days of the week, or daily, as may be preferred, to receive their siege rations.

If this organisation be carefully prepared beforehand, there should be no difficulty in putting it into force in case of national emergency. The example of Paris proves that it is possible to ration even the largest cities. In the small towns there would be no difficulty. In very scattered country districts, far from railways, it would be more difficult, but that could be met by increasing the number of centres of distribution, and by ordering the people to attend only once a week to receive a week's supply.

Groceries, fish, vegetables, game, poultry, milk, cheese, tea, etc., would be left untouched.

Siege Rations.

It is manifest that Government could only afford, on account of the enormous expense, and in order to make the supply of provisions last out for the required time, to give as a free ration the minimum of the necessaries of life requisite to keep people from starvation, leaving them to supplement this minimum ration by purchasing other food when they have any money to do so. The siege ration proposed to be issued free to every person is, therefore, a very small one, as follows :—

Table XIV.

Siege Ration Scale.

	Brown Bread. 1 lb. daily.	Potatoes. 1 lb. daily.	Oatmeal. ½ lb. 3 times a week.	Barley Meal. ½ lb. 3 times a week.	Meat. ½ lb. once a week instead of Oatmeal.
Males over 10 years of age.					
Females over 10 years of age.	½ lb. daily.	¾ lb. daily.	¼ lb. 3 times a week.	¼ lb. 3 times a week.	¼ lb. once a week instead of Oatmeal.
Children under 10 years of age.	⅓ lb. daily.	⅓ lb. daily.	⅓ lb. 3 times a week.	⅓ lb. 3 times a week.	¼ lb. once a week instead of Oatmeal.
Total per diem...	26,000,000lbs.	30,000,000lbs.	14,500,000lbs.	14,500,000lbs.	17,750,000lbs.

Note.—¼ lb. of oatmeal will make a good plate of porridge.

This, of course, is a small ration, but all except the absolutely penniless would be able to buy other food sufficient to make it larger according to their purse. For fish, poultry, eggs, game, vegetables (except potatoes), cheese, milk, etc., would be retailed in the shops as usual. The object of the ration is to prevent starvation, not to give comfort, and, by doling out the necessaries of life on a fixed scale daily, to prevent their being wasted and used up too soon, either by the rich or the poor.

It remains to show how long we could last out on this siege ration.

Meat.

As we should be compelled to take for human food the whole of the barley and oats used in feeding cattle, and, as in the event of blockade, the imports of feed-grain, etc., would cease, we must regard the live-stock as practically deprived of the whole of their grain food. I consulted Mr. Allsop, a cattle-dealer at Inverurie, in Aberdeenshire, and Mr. Parker Norfolk, a representative farmer of the West Riding of Yorkshire, and a great authority on cattle (and who gave evidence before Mr. Yerburgh's Committee), on the subject of what effect such a change of diet would have. He consulted some others experienced in cattle, and, finally, gave as his opinion that taking cattle of all ages at an average weight of 500 lbs. and sheep at 50 lbs., that in the summer, when grass, etc., are good and plentiful, it would not make much difference generally, but that in the winter they would go down to 350 lbs. and 40 lbs. respectively; that pigs would be most affected, and would go down at once to 50 lbs., taking their average weight at 100 lbs. Taking this opinion as correct, I take the average between summer and winter under such circumstances as 425 lbs. for cattle, 45 lbs. for sheep, and 50 lbs. for pigs. Accordingly we should depend upon this amount of meat:—

Table XV.

Species.	Number.	Average Weight.	Total lbs. of Meat.
Cattle ...	11,000,000	425 lbs.	4,675,000,000
Sheep ...	31,000,000	45 lbs.	1,395,000,000
Pigs	3,700,000	50 lbs.	185,000,000
			6,255,000,000

Now it is plain that Government, owing to the great expense, could not afford to give a meat ration to everybody more than once a week, which is as much as many of the poor get as it is. For instance, the farm servants in Aberdeenshire, than whom there is not a more sturdy race, hardly ever used to see meat, and now they only get it once a week, sometimes only once a fortnight.

The meat siege ration is:—	lbs.
15,000,000 males over 10 years of age at ½ lb. -	7,500,000
16,000,000 females ,, ,, ,, -	8,000,000
9,000,000 children under 10 years of age at ¼ lb.	2,250,000
Total meat required for one day -	17,750,000

This would give us 234 days' supply without touching the animals reserved for milk and breeding. But at the rate of a ration once a week we only require 48 days' supply, leaving the rest for sale to those who could afford it. In order to keep this sale under control and prevent waste, it should take place at the Government centres of distribution only on days when a meat ration was not issued, and then no person should be allowed to buy more than ¾ lb. per head of family at most. This would enable those who had money to get meat every day.

BREAD.

Siege Ration.	lbs.
15,000,000 males over 10 at 1 lb. daily - -	15,000,000
16,000,000 females over 10 at ½ lb. ,, - -	8,000,000
9,000,000 children under 10 at ⅜ lb. daily -	3,000,000
Total required - - - - -	26,000,000

Each quarter of wheat produces 336 lbs. of flour, and also 140 lbs. of what is called offals, divided into fine and coarse middlings, fine and coarse pollards, and fine and coarse bran. If white bread only is made, the offals are not used, and the 336 lbs. of flour produce 116 quartern loaves, or 464 lbs. or white bread.

A million quarters of wheat would produce, therefore, only seventeen days' supply at siege ration : $\frac{464,000,000}{26,000,000}=17$, which is not enough.

If you leave out the bran, and put in the rest, you could produce a coarse brown flour, which would make 13,440 quartern loaves for 100 quarters of wheat.

A million quarters work out thus : $\frac{537,600,000}{26,000,000}=20$ days' supply, which is not enough.

If you put in the bran, a quarter of wheat will produce 670 lbs. of coarse brown wheat-meal bread, which works out to :—

A million quarters $=\frac{670,000,000}{26,000,000}=25$ days' supply of wheat-meal bread.

Immediately after harvest there would be available :—

6,860,000	qrs.	
500,000	,,	old wheat in farmers' hands.
2,000,000	,,	merchants' stocks at the ports.
1,500,000	,,	millers' stocks.
1,000,000	,,	bakers' stocks.
1,500,000	,,	afloat, as certain out of 2,700,000 afloat and orders.
500,000	,,	available maize, etc., at the ports.
13,860,000		

which would give us 346 days' supply, or 11½ months' supply. In order to reach the new harvest it would be necessary for the last two or three months to cut down the siege ration to ¾ lb. per man, which would give us 32 days' supply in a million quarters, and enable us to last till the new crop.

Meantime, a much larger crop would have been sown, as there would be a certain sale at 80s. a quarter, so the new crop may be considered as 12,000,000 at least instead of 8,000,000. This would give us another 10 months' supply, or 22 months all told.

If blockade were established six months after harvest at end of February, *i.e.*, at the present moment, a reference to Table IV. shows that

there would be wheat undelivered in farmers' hands—3,300,000 qrs. Deduct 300,000 qrs. for extra seed for the new crop of 12,000,000 qrs., and add the stocks as before, and then there are 10,000,000 qrs. available, or 250 days' supply, or 8 months, which, added to the new crop of 12,000,000 qrs., will give us 18 months' supply all told.

If blockade were established nine months after harvest at end of May, referring to Table IV., there would be 1,800,000 qrs. undelivered in farmers' hands. Deducting 3,000,000 qrs. and adding the stocks, etc., as before, it shows 8,500,000 qrs. available, or 212 days' or 7 months' supply, which, added to the new crop of 12,000,000 qrs., would give us 17 months' supply all told.

Potatoes.

The following table shows that our potato supply would last us on the siege ration for 16 months at the worst time of the year:—

Siege Ration.

15,000,000	males over 10 years of age at	1 lb. daily	= 15,000,000 daily.
16,000,000	females ,, ,, ,,	,, ¾ lb. ,,	= 12,000,000 ,,
9,000,000	children under 10 years	,, ½ lb. ,,	= 3,000,000 ,,
	Total required daily - - -		30,000,000

Table XVI.

Amount of Potatoes available at any time of year.

100,704,000	cwts.	Average Crop minus Seed, 1892-98.
+3,784,850	,, ,,	Import –Export.
12 104,488,850	,, ,,	Total yearly consumption.
8,707,404	,, ,,	Monthly consumption.
×6		
52,244,424	,, ,,	Consumption in 6 months.
1,892,425	,, ,,	Import in 6 months.
50,351,999	,, ,,	Crop consumed in 6 months.
100,704,000	,, ,,	Crop minus Seed.
–50,351,999	,,	Crop consumed in 6 months up to 31st February.
50,352,001	,,	Crop left at end of February.
26,122,212	,,	Total Consumption in March, April, and May.
–946,212	,,	Total Imports in March, April, and May.
25,176,000	,,	Crop consumed during March, April, May.
50,352,000	,,	Crop left at end of February.
–25,176,000	,,	Crop consumed in March, April, May.
25,176,000	,,	Crop left at end of May.

Immediately after harvest there would be therefore:—

$$\frac{11,278,848,000}{30,000,000} = 376 \text{ days' supply} = 12\tfrac{1}{2} \text{ months' supply.}$$

Six months after harvest:—

$$\frac{5,639,424,000}{30,000,000} = 187 \text{ days} = 6 \text{ months} + \text{new crop} = 18\tfrac{1}{2} \text{ months.}$$

Nine months after harvest:—

$$\frac{3,070,712,000}{30,000,000} = 102 \text{ days} = 3\tfrac{1}{3} \text{ months} + \text{new crop} = 16 \text{ months.}$$

Oats.

The oatmeal ration is a rather more difficult question, as we have to allow for the food of the horses. There are shown in the Agricultural Returns 2,000,000 horses, adding another 1,000,000 for those not included, makes a total of 3,000,000 roughly. Of these, a good many belonging to the poorer classes never see oats, but are fed entirely on grass, hay, straw, etc. The horses, like everybody else, must be cut down to the minimum that will keep them going. In 1801 the Committee of the House of Lords on the Scarcity of Provisions recommended economy in the feeding of horses by the use of chopped hay and straw with their oats. I am informed on good authority that a horse could be kept in fair working order, not, of course, in good condition, but sufficiently so to do his work, on 3 lbs. of oats plus hay, straw, etc., daily. And in war we know that such has often been the case. Therefore I have taken a horse's siege ration at 3 lbs. of oats daily, or 9,000,000 lbs. daily for all the horses in the United Kingdom.

Immediately after harvest there would be ample, after deducting food for the horses, to last us till the next crop and a good deal to spare. But later on in the year it becomes a closer thing.

Table XVII.

Amount of Oatmeal available six months after Harvest.

78,192,117	Bushels of Crop undelivered in Farmers' hands.	*Vide Table VIII.*
+ 10,000,000	Stocks of Merchants and Millers, etc.	
+ 3,000,000	Stocks of Oatmeal expressed in Bushels of Oats.	
91,192,000	Total available.	
− 40,950,000	3 lbs. per day for 3,000,000 Horses for six months.	
50,242,000	left available for Human food.	
50,000,000	A Bushel of Oats produces 25 lbs of Oatmeal.	
× 25		
1,250,000,000	lbs. of Oatmeal.	

Siege Ration.			lbs.
15,000,000	Males over 10 years of age at	½ lb.	=7,500,000
16,000,000	Females " "	¼ lb.	=4,000,000
9,000,000	Children under "	⅓ lb.	=3,000,000
	Total required daily ...		14,500,000

$$\frac{1,250,000,000}{14,500,000} = 81 \text{ days' supply, or } 6\tfrac{3}{4} \text{ months at 3 days a week.}$$

Table XVIII.

Amount of Oatmeal available nine months after Harvest.

35,593,000	Bushels undelivered in Farmers' hands at end of May. *Vide Table VIII.*
10,000,000	Stocks in hands of Merchants, Millers, etc.
3,000,000	Stocks of Oatmeal expressed in Bushels of Oats.
48,593,000	Total available.
− 20,475,000	Required for 2,000,000 Horses for 3 months at 3 lbs. per day.
28,118,000	Left available for Human Food.
× 25	
602,950,000	lbs. of Oatmeal.

$$\frac{602{,}950{,}000}{14{,}500{,}000} = 41 \text{ days, or } 3\tfrac{1}{2} \text{ months at 3 days a week.}$$

The New Crop, after deducting food for the Horses for a year, would just give us 12 months' supply at Siege Ration: Total 15½ months.

Table XIX.—BARLEY.

Amount of Barley-Meal available at any time of year.

(1) *Immediately after Harvest*:—

67,341,000	Bushels Crop, minus Seed.
+ 12,000,000	Stocks in hands of Merchants, Millers, Malsters, and afloat.
79,341,000	Total supply available.
× 35	
2,776,935,000	lbs. of Barley Meal. 1 Bushel of Barley=35 lbs. of Meal.

$$\text{Siege Ration } \frac{2{,}776{,}935{,}000}{\div 14{,}500{,}000} = 191 \text{ days' supply, or 16 months at 3 days a week.}$$

(2) *Six Months after Harvest*:—

28,000,000	Bushels undelivered in Farmers' hands. *Vide Table X.*
+ 12,000,000	Stocks in hands of Merchants, Millers, Malsters, and afloat.
40,000,000	Total available.

$$\text{Siege Ration } \frac{40{,}000{,}000 \times 35}{\div 14{,}500{,}000} = 96 \text{ days' supply, or 8 months at 3 days a week, or with next crop 21 months in all.}$$

(3) *Nine Months after Harvest*:—

12,000,000 Bushels available only. *Vide Table X.*

$$\text{Siege Ration } \frac{12{,}000{,}000 \times 35}{14{,}500{,}000} = 49 \text{ days' supply, or 4 months at 3 days a week, or with next crop 17 months in all.}$$

Of course, in order to obtain this siege ration of barley meal, it would be necessary to stop for the time the production of beer and whisky, leaving the brewers and distillers to continue their business on the amount only of the beer and whisky that they have in stock. I do not know how much beer the brewers have in stock, but the whisky distillers have always a lot of whisky in stock maturing; at the present time they have seven years' supply maturing. Anyhow, food comes before alcoholic drink, and people, if necessary, can drink water.

From the preceding considerations it is plain that if the required Food-Supply Department be started at once, and all the necessary preparations and organisation be forthwith taken in hand, we have enough food in the country at the worst time of the year to last us for 17 months on a siege ration scale, without any further supplies from over-sea.

But during those 17 months we should, with enhanced prices, undoubtedly receive a certain amount of food supplies from over-sea, even if they were only brought by blockade-runners, few and far between, if the worst had happened, namely, a defeat of our fleet. These supplies gradually filtering in and replenishing partly the merchants' stocks, would enable us to last out the required two years. For instance, take bread. Our average monthly import, in peace, of wheat and flour is about 2,000,000 qrs ; suppose that we only managed, with enhanced prices, to get one-fourth of our ordinary supply, or about 500,000 qrs. Yet this 500,000 qrs. a month would, during the 17 months that we can hold out, gradually mount up to 8,500,000 qrs. or 7 months' supply, which would take us to the required two years. And during the extra 7 months thus gained we should receive nearly 3 months' more supply at siege ration scale. And so on, with the other necessaries of life. On the siege ration scale we practically *could not be starved out*, whatever might happen.

When one comes to the cost of thus feeding the whole nation on siege rations, one comes to very thin ice indeed. I must again repeat that the cost of the peace establishment of the Food-Supply Department would be only £15,000 a year or so, and that the siege organisation is only meant to be prepared and kept ready for application under desperate circumstances. If we are reduced to such desperate circumstances, it will be a question whether we prefer to give in and pay £800,000,000 as a war indemnity, as well as giving up our fleet, coaling stations, and perhaps our Crown Colonies, or to fight it out and spend the money on defending ourselves instead. I assume that we shall certainly decide to spend the money on defending ourselves.

If we lose command of the sea, nearly 20,000,000 of our people would be starving. They must be fed, or bloody bread riots, looting of all provision shops and stores, and revolution would follow.

We have had an experience in this matter. The cotton famine of 1863 threw 400,000 people starving on the streets. They behaved very well and quietly. But why? Simply because £4,000,000 was expended in their relief. This gives us a measure of what it would cost the State to feed 20,000,000 on some such hastily extemporised plan of relief ; it is a simple sum, and works out thus :—

400,000 : 20,000,000 :: £4,000,000 = £200,000,000 a year,
= £ 16,500,000 a month,

and these £16,500,000 a month would only feed half the nation, with no guarantee of preventing waste by the other half. It is also more than doubtful if any hastily extemporised measures of relief could possibly be carried out on so enormous a scale.

Against any such hastily extemporised relief measures, the proposed Food-Supply Department presents the following advantages :—

1. It would be certain and machine-like in its operation.
2. It could be applied at once whenever necessary.
3. It would cost about just half as much.
4. It is the only method by which we could be certain of lasting out.
5. It would supply a steady customer, the Government, at fair war profits to all dealers in the necessaries of life, who otherwise would probably find their stores looted for nothing by starving mobs, and would be ruined in consequence.
6. It would preserve order and avoid revolution.

As regards the actual cost, I estimate it roughly thus :—

Bread	at 80s. a quarter	=£4,800,000 a month.
Meat	at 9d. a pound	=£2,600,000 a month.
Potatoes	at 4s. a bushel	=£3,200,000 a month.
Oats	at 30s. a quarter	=£1,300,000 a month.
Barley	at 40s. a quarter	=£1,200,000 a month.
		£13,000,000 a month.
Working expenses, etc.		1,000,000
Total - -		£14,000,000 a month
		=£168,000,000 a year.

Of this the money spent on providing the necessaries of life at famine prices for the well-off people could be recovered by a food-tax of 2s. in the pound on all who pay Income Tax, which would yield £50,000,000, making the remaining cost to the State £118,000,000 a year, as against £200,000,000 a year required by extemporised relief works to feed half the population.

These figures sound terrific. And the idea of nearly 20,000,000 of our people starving is terrific. So is the alternative idea of submission and political extinction, or in the words of Lord Salisbury, "An end to the history of England." The present war in South Africa is costing us £150,000,000. If we intend to emerge victorious from a struggle against a European combination we must make up our minds to pay the price; the expenditure will count by hundreds of millions, three or four, or five, or six as the case may be, the taxes will run to nearly 50 per cent. of income, and we shall have to nearly double our national debt. If we are beaten at the outset, that is what it will probably cost us to win in the end.

To feed the starving masses, and to last out till our Navy is finally victorious, some such scheme as I have outlined is necessary. I asked the opinion of Mr. Charles Booth, the great authority upon the condition of the poor, as to this matter. He replied by telegram that I might quote the following opinion :—

"The effect of a sudden and concerted attack aimed at cutting us off from the rest of the world, even if only half successful, would be terrible, creating a state of siege which could only be prolonged by some such organisation as proposed."

I quote this because the effect upon the poor is the crux of the matter, and as regards the condition of the poor there is no greater authority than Mr. Charles Booth.

To sum up, it is plain than any Government has the power, if they choose to take the trouble, to guarantee us against starvation. It is in the power of the Government, if they choose, to guarantee that, in the event of a great corner in wheat being worked against us, it shall not produce famine. It is in the power of the Government, if they choose, to guarantee, that in the event of naval disaster, our Navy shall *for certain* have the time which it will require to repair the disaster and regain command of the sea. It is in their power to do this, as far as our food supply is concerned, at an infinitely small cost during peace, about £15,000 a year. It is only necessary for them to make a few simple preparations during peace, if they chose to take the trouble. Negligent optimism alone will be the cause if, in the event of naval disaster, we should ever be starved into submission before we have been able to regain command of the sea.

The Garrison of the Fortress.—Universal Militia Service.

But it will be idle and vain for us to guarantee ourselves from starvation if at the same time we leave open to the enemy the far shorter road to victory, namely, invasion and conquest. The two are mutually dependent. It is of no use to be safe from starvation if we are liable to conquest; it is no use to be safe from conquest if we are liable to starvation. In any thorough scheme of Imperial Defence a proper land defence, *i.e.*, Universal Service and a Food-Supply Department, is the complement of a proper Navy, *i.e.*, a Navy on a three-Power scale. For it will release the Navy from being tied down to perpetually guarding these islands from starvation or invasion, and will enable it to use its whole force for offensive strategical purposes. There can be no Admiral, therefore, who would not welcome Universal Service and a Food-Supply Department, for they would relieve him of an immense task, of an immense responsibility, and of the deafening clamour of alarmed public opinion for coast-defence squadrons, as in the American-Spanish War. He would then be able, with a light heart, knowing that all is safe behind him, to concentrate every ship and every gun for the attainment of the first great principle of all strategy, namely, the defeat of the enemy's main force. And he would be able to greatly dare, knowing that even a defeat would not mean the ruin of the Empire. For even if defeated by accidents of naval warfare, or by superior force, he could still take refuge in the impregnable fortress of Great Britain, a fortress safe from invasion or starvation, where he could repair his shattered fleet and reinforce it more strongly and rapidly than his opponents could do. Therefore, a Food-Supply Department and Universal Service would be to the Navy an immense benefit.

I will say no more about Universal Militia Service now, for I have reached, and even exceeded, my utmost limit of time. I have already

endeavoured to deal with this subject in a pamphlet published by Messrs. Gale and Polden, called "The Electors of Great Britain and the Defence of the Country." I have there tried to show the hollowness of the old-fashioned arguments one usually hears brought against Universal Service, arguments which were, perhaps, sound thirty years ago, but which to-day are hopelessly out-of-date and behind the times. I have also proposed a scheme for consideration by which Universal Service for Home Defence could be worked in this country at a minimum of expense, and at a minimum of inconvenience to everybody concerned. I mention this because a Food-Supply Department and Universal Service are each mutually necessary to each other. I have bestowed much time and thought on both, as they are so closely related, and I would beg you to consider them both together.

I will once more repeat that a "thorough" scheme of Imperial Defence, adequate to the magnitude of our necessities, can be satisfied with nothing less than a Navy increased to a three-Power scale, a Universal Militia Service Home Defence Army, a Food-Supply Department, and the establishment of a War Chest, or a large Gold Reserve in the Bank of England.

In conclusion, I would ask you, when you leave this Institution, not to dismiss from your minds what has been said to-day as a mere academic discussion. For, as Bacon put it long ago, "Good thoughts are no better than good dreams, except they be put in action." And our danger is pressing. Action, immediate action, is required. For too long we have talked and done nothing, or next to nothing, while our enemies have been growing stronger and stronger. And to-day the hostile nations all around us, armed to the teeth, filled with hatred, are sullenly glowering at us, casting envious eyes on our magnificent heritage, and muttering among themselves. And who can say that the prospect of world-wide booty will not tempt them before long to compose or sink their differences, and to join in a combination of spoliation against our half-armed and unprepared Empire? To be unprepared is to invite attack.

APPENDIX.

Table showing our Supply of Wheat, home-grown and imported, and our annual consumption per head. (From Mr. Crawford's "Notes on the Food Supply of the United Kingdom, Belgium, France, and Germany.")

Period.	Average Annual supply from Home production less seed 2 Bushels per acre.	Average Annual Imports of Wheat and Wheat as Flour.	Average Annual Total Supply.	Average Annual Supply per head of Pppulation.		
				Home.	Imported	Total.
	Qrs.	Qrs.	Qrs.	lbs.	lbs.	lbs.
1892-94	7,054,000	21,955,000	22,009,000	88	274	362
1893-95	6,420,000	22,896,000	29,316,000	79	283	362
1894-96	5,918,000	23,355,000	29,273,000	73	286	359
1895-97	6,063,000	22,721,000	28,784,000	74	276	350
1896-98	6,391,000	21,664,000	28,055,000	77	261	338

Table showing how the stock of grain and flour in hands of Merchants at the Ports vary in size at different times.

COMPARATIVE STATEMENT OF GRAIN AND FLOUR STOCKS IN U.K. PORTS.

PORTS.	WHEAT.			FLOUR.§			BARLEY.		
	Jan. 1st. 1901.	July 1st. 1900.	Jan. 1st. 1900.	Jan. 1st. 1901.	July 1st. 1900.	Jan. 1st. 1900.	Jan. 1st. 1901.	July. 1st. 1900.	Jan. 1st 1900.
	qrs.	qrs.	qrs.	sks.	sks.	sks.	qrs.	qrs.	qrs.
London	320,279	133,329	257,862	420,173	363,769	306,764	118,255	90,099	153,197
Liverpool ...	493,740	375,483	383,134	89,115	68,472	133,363	44,826	46,057	71,756
Fleetwood ...	21,500	91,000	30,000	...	...	...	...	...	...
Hull...	171,180	245,852	229,071	7,700	40,434	8,206	159,366	102,574	115,322
Bristol	91,398	162,842	127,884	9,184	34,621	21,532	140,765	135,111	151,384
Gloucester ...	30,300	50,300	74,800	...	...	...	56,500	6,400	19,960
Newcastle* ...	77,114	71,492	74,501	4994	...	2,534	5,069	6,127	5,365
Glasgow	43,483	19,894	28,324	161,687	107,711	167,038	7,147	7,093	11,034
Leith †	119,287	96,627	86,609	100,293	101,335	112,606	123,123	77,633	123,391
Dublin ‡	35,000	75,000	50,000	64,000	60,000	50,000	...	...	...
Belfast ‡	6,000	3,000	5,000	25,000	10,000	15,000	...	...	...
Limerick ‡ ...	20,000	50,000	40,000	4,000	35,000	15,000	2,000	2,000	5,000
Londonderry ‡	4,000	5,000	4,000	30,000	30,000	30,000	...	...	...
Total ...	1,433,281	1,379,819	1,391,185	916,146	851,342	862,043	657,051	473,094	656,655

COMPARATIVE STATEMENT—*continued.*

PORTS.	OATS.		BEANS.		PEASE.		MAIZE.	
	Jan. 1st. 1901.	Jan. 1st. 1900.	Jan. 1st. 1901.	Jan. 1st. 1900.	Jan. 1st. 1901.	Jan. 1st. 1900.	Jan. 1st. 1901.	Jan. 1st. 1900.
	qrs.	qrs.	qrs.	qrs.	qrs	qrs.	qrs.	qrs.
London	272,125	418,172	10,231	10,187	9,981	19,855	37,555	89,301
Liverpool	7,860	7,405	7,197	14,584	9,952	7,472	163,353	259,570
Fleetwood	...	...	...	...	...	...	...	...
Hull	22,845	18,337	1,858	2,540	2,469	1,785	46,611	70,698
Bristol	31,201	72,247	...	1,245	3,323	4,956	82,185	118,358
Gloucester	13,700	21,000	...	9,900	...	...	12,500	42,400
Newcastle* ...	5,721	15,370	2,364	2,073	4,687	3,471	7,249	30,130
Glasgow	22,811	14,237	8,412	6,910	534	7,959	13,925	34,905
Leith †	16,825	26,962	1,952	2,001	6,255	7,255	46,494	42,243
Dublin ‡	...	...	...	...	...	...	16,000	70,000
Belfast ‡	...	...	...	...	...	...	15,000	45,000
Limerick ‡... ...	10,000	10,000	...	...	...	...	13,000	15,000
Londonderry ‡ ...	...	...	...	...	...	...	10,000	15,000
Total	403,088	603,730	32,014	52,440	37,181	52,755	460,872	832,905

* Including Sunderland. † Including Stocks in millers' as well as merchants' hands.

‡ Estimated. § Also 2,252 brls. January 1st. 1901 ; 2,000 brls. July 1st. 1900 ; 1,333 brls. January 1st, 1900.

From G. Dornbusch's "Floating Cargo Evening List."

COMPARATIVE SURVEY OF WHEAT.

Twentieth Week of Cereal Year 1900-1.	Last Week.	A Month ago.	Last Year.	Two Years ago.	Three Years ago.
Wheat Imports, U.K.... ... ...Qrs.	276,270	169,610	235,507	286,503	445,037	291,810
Flour (as Wheat) Imports, U.K.	109,067	181,834	119,633	143,367	154,967	189,200
Aggregate Imports	385,337	351,444	356,140	430,320	600,004	482,010
Estimated Imports required weekly...	450,000	450,000	450,000	415,000	420,000	425,000
Average Weekly Imports since 1st Sept.	468,000	473,000	487,000	423,000	424,000	425,000
Estimated Deliveries of British Wheat	144,367	93,846	114,462	128,297	154,602	107,694
Aggregate U.K. Supply for the Week	529,704	445,290	470,602	558,617	754,606	589,704
Estimated Weekly Consumption at this season ..	585,000	585,000	585,000	585,000	585,000	580,000
Wheat Imported since 1st Sept.	6,388,977	6,112,707	5,395,510	5,601,257	5,632,531	5,825,801
Flour (as Wheat) Imports since 1st Sept..... ..	2,983,302	2,874,235	2,388,001	2,856,906	2,844,125	2,673,063
Total Imports	9,372,279	8,986,942	7,783,511	8,458,163	8,476,656	8,498,837
British Wheat delivered	2,339,021	2,194,654	1,958,042	3,085,038	3,046,040	2,907,997
Imports and Home Supply	11,711,300	11,181,596	9,741,553	11,543,201	11,522,696	11,406,834
Foreign Wheat and Flour in U. K. ports	2,230,000	2,280,000	2,808,000	2,283,000	1,240,000	1,536,000
British Wheat undelivered	3,660,000	3,805,000	4,042,000	3,915,000	4,955,000	3,092,000
Official Visible Supply in United States	7,650,000	7,730,000	7,685,000	7,067,000	3,467,000	4,730,000
Wheat and Flour Afloat for U. K. and Orders ..	2,715,000	2,610,000	2,375,000	1,845,000	2,315,000	2,830,000
In Farmers' Hands, U.K. ports, Afloat, and Am. V.S.	16,255,000	16,425,000	16,910,000	15,110,000	11,977,000	12,188,000
Wheat and Flour Afloat for Continent direct ..	795,000	850,000	815,000	830,000	1,070,000	1,285,000
Gazette Deliveries of English Wheat	64,163	41,709	50,872	57,021	68,712	47,864
Average Price ... ... ₩480lb.	26/11	26/7	26/7	25/11	27/2	35/-
Mark Lane—English White Wheat... ₩504lb.	29/6-31/-	29/- 30/6	29/- 30/6	28/- 29/6	29/- 31/-	35/6-39/6
.. No.1 Hard Manitoba Wheat ₩496lb.	34/6	33/6-34/-	33/6-34/-	30/6-31/-	31/9 32/6	39/6-39/9
.. South Russian Wheat ... ₩496lb.	31 - 32/-	30 - 31/6	30/- 31/6	30/- 30/6	31/- 32/6	36/- 39/-
.. London Household Flour ₩280lb.	25/6	25/-	25/-	23/-	25/-	31/-
.. Minnesota 1st Bakers .. ₩280lb.	20 - 20/6	20/- 20/6	20/- 20/6	18/6-20/-	20/6-21/6	27/- 27/6
London—Wheat "Futures," Month ₩100lb.	6/7½	6/5	6/5	5/11¼	6/2½	7/10
Liverpool—Spot No. 1. Californian ₩100lb.	6 4½-6/5	6 2½-6/3	6/2-6/2½	6/3-6/3½	—	7/11-8/-
Paris—Term Wheat. Month ... ... ₩480lb.	33/4	34/6	34/6	31/-	38/1	49/7
Antwerp—American Red ... ... ₩480lb.	29/7	29/9	29/9	27/7½	30/7½	36/1½
New York—Spot No. 2 Red Winter ₩480lb.	27/8½	27/-	27/-	25/10	28/-	34/10

From Dornbusch's "Floating Cargo Evening List," January 22nd, 1901.

Table showing the relatively small proportion of ploughed land in the United Kingdom, as compared with other Countries named. And land under plough gives occupation to three times as large a rural population as land under grass.

Country.	Density of Population per Square Mile.	A. Total area Thousands of Acres.	B. Cultivated Area Thousands of Acres.	C. Arable Area Thousands of Acres.	B as percentage of A.	C as percentage of A.
England	528	37,000	27,000	12,000	74	44
United Kingdom	332	77,000	47,000	19,000	61	41
France	187	130,000	82,000	62,000	63	76
Belgium	571	7,000	4,000	3,000	61	78
Germany ...	260	133,000	80,000	63,000	60	79

From Mr. Crawford's "Notes on the Food Supply of the United Kingdom, France, Belgium, and Germany."

Average Yearly Import of Meat (live stock, fresh, salted, and preserved), divided into Imports from European sources (presumably hostile), from American sources (presumably friendly), and from the British Empire.

—	From Europe.	From United States and South America.	From British Empire.	Total.
	cwts.	cwts.	cwts.	cwts.
Cattle (at 500 lbs. each) ...	968	1,907,840	476,192	2,385,000
Sheep (at 50 lbs. each) ...	19,643	269,115	43,212	331,970
Pigs (at 100 lbs. each) ...				138
Fresh Beef, frozen ...	10,330	2,310,260	632,400	2,952,967
Fresh Mutton, frozen ...	257,289	818,573	2,016,136	3,095,998
Salt Beef	300	202,247	3,364	205,911
Salt Meats (various) ...	242,276	96,607	14,000	352,283
Preserved Beef	12,138	350,391	16,067	378,596
Preserved Mutton... ...	*Nil*	5,466	120,054	125,530
Preserved Meats (various)	13,936	110,204	62,720	186,862
Salt Pork	87,759	150,420	16,506	254,687
Fresh Pork...	300,943	128,133	3,300	432,376
Rabbits	110,507	*Nil*	141,336	241,863
Bacon	1,191,237	3,433,824	401,682	5,026,753
Hams	5,000	1,554,048	86,098	1,645,146
Total	2,000,000	11,000,000	4,000,000	17,000,000

Note.—The totals are given in round numbers, for convenience of memory.
Authority: "Statistical Abstract of the Trade of the United Kingdom."

Table showing Imports used for Feeding Cattle.

Barley	11,947,000 cwts.	Maize	42,067 cwts.	Cotton Seed Cake	2,140 cwts.
Oats	14,815,000 ..	Cotton Seed	3,124 ..	Other Oil	120 ..
Rye	997 ..	Linseed	2,927 ..	Hay	2,870 ..
Beans	2,785 ..	Rape Seed	335 ..		
Pease	1,963 ..	Linseed Cake	3,880 ..		

From Mr. Crawford's "Notes on the Food Supply of the United Kingdom, France, Belgium, and Germany."

Table Showing Total Acres Required to Grow Our Imports.

		Acres.
Land required to grow our	Wheat Imports	5,979,000
.. ..	Food-stuffs and Hay for Cattle	6,093,000
.. ..	To feed Cattle—to Beef Imported ...	4,108,000
.. ..	To feed Sheep—to the Mutton Imported ...	2,176,000
.. ..	To feed Cattle—to the Milk 22,999,000 or	23,000,000

Note.—The total cultivated area of the United Kingdom, crops and grass, is 47,800,000 acres.

From Mr. Crawford's "Notes on the Food Supply of the United Kingdom, France, Belgium, and Germany."

Mr. JESSE ARGYLE (Private Secretary to Mr. Charles Booth, who is the author of "Life and Labour of the Poor"):—Captain Murray has been so good as to invite me to make one or two remarks in regard to the use which he has made in his paper of Mr. Booth's figures on the condition of the population of London. It is only on that point that I wish to speak, and my remarks will be very brief indeed, because this is probably but a minor point compared with the general interest of the paper. In the absence from town of Mr. Booth, Captain Murray consulted me as to whether any figures were available which would show the probable condition to which the population of this country would be reduced in the event of a war, the outcome of which would be a three-fold rise in the cost of the necessaries of life. I told him at once that I did not know of any such figures, but I pointed out the results of Mr. Booth's inquiries as they affected London, and he thereupon decided in a very general way to make use of those figures as a basis upon which to estimate what would happen to the whole population under the conditions which he named. The basis is of course narrow, but I am authorised by Mr. Booth, who very much regrets that he cannot be here to-day, to say that he thinks that Captain Murray has made a perfectly legitimate and correct use of the figures so far as they go. Of course there are, no doubt, conditions which are peculiar to London, and which could not well be applied to any other part of the country. At the same time, Captain Murray has made very ample allowance for any divergence of that kind. He has here, I see, taken the figure of 25,000,000 as representing the urban population of this country, the population to which Mr. Booth's figures for London might presumably apply. As to that figure of 25,000,000, I do not think he is very far out. Some time ago Mr. Booth went into the question very carefully, of what was the proportion of urban population in the country in connection with his inquiry into the condition of the aged poor, and he there estimates the population of a strictly urban or semi-urban character in England and Wales to be fully 20,000,000, that is roughly that 20,000,000 out of 30,000,000, or two-thirds of the population of England and Wales, may be fairly said to be of an urban character. Then we have to add on Ireland and Scotland, and if we might apply roughly one-half as being urban in those two countries, we should have the figure of 25,000,000 which Captain Murray gives: and when we consider that later on he has made a considerable deduction from that to allow for possible errors, I quite think that he has taken a modest estimate of the probabilities in this matter. I may say that as bearing on the question of how far the figures for London will apply to other parts, an inquiry was conducted a few years ago in Manchester on the same lines as Mr. Booth's inquiry in London, and the results that came out from the inquiry were remarkably similar, showing that, at any rate for the great towns, what holds good in London would to a very great extent hold good in other parts. The difficulty of course is in the smaller towns, where you would get a different condition of things; but briefly summing up this point, and not to labour it unduly, I think that, given the very deplorable state of things which Captain Murray assumes would arise in the event of a great war, there seems no reason to doubt that his figures are well within the mark.

Admiral F. A. CLOSE:—The question that we have before us to-day is not a new one. I have been at it for 20 or 30 years. I began almost single-handed. At last I got it into the hands of better men than myself—Mr. Yerburgh, M.P., and Mr. Seton-Karr, M.P. Those two patriotic men put their hands into their pockets, and went to considerable expense, in forming a committee, which sat at the Westminster Palace Hotel for weeks, and which very much resembled a Parliamentary committee, and before which committee hundreds of business men and other gentlemen gave evidence. They then took the matter into Parliament—and with what success? Why, they were almost laughed at by Mr. Balfour, who said he put his trust in the Navy! The Royal Navy has never had command of the sea as far as the protection of our merchant-ships are concerned; so what chance have we now? Why, alas, should Captain Murray expect that he should be listened to, when such men as Yerburgh and Seton-Karr have failed? I have had the honour of discussing this matter on several occasions with our (Bristol, W.) member, the Chancellor of the Exechequer. He is a very clever man, and he

and His Majesty's ministers have more general knowledge in their little fingers than I have in my whole body. Why then do they ignore the food question? Because they are not naval officers, and are therefore ignorant of what the Navy *can do and cannot do.* They say that because now we have spent something like £80,000,000 on our Fleet, and have obtained a very powerful array of ships, that all things are safe, and that they can protect the food supply. That is not the case. What the Royal Navy has to do, first of all, is to meet the battle fleets of the enemy; and, in the second place, give what protection we can to our merchant-ships. How many cruisers do we want to protect our 11,000,000 tons of merchant-ships? Twelve years ago, you remember, the merchants in the City of London took fright, and invited Admiral Sir Geoffrey Hornby to come and advise them on this subject. He threshed the thing out thoroughly, and said we want 180 cruisers to protect our trade routes and 100 more for service with the Fleet. What have we got at present? 140. To get the cruisers we require it would cost £80,000,000 or £100,000,000, and then if we got them they would be useless, because we have not got the men to man them. What is the use of talking about having a three-Power Fleet? The thing is impossible. Money cannot do it. Why should I be obliged to preach this gospel which I have been obliged to preach for many years on thousands of platforms throughout the country, "that the Navy is the first line of defence, and in the present circumstances is the only line of defence," because, if any disaster happens to the Navy, and we are driven into port, the Army and the people must starve together. Who is it besides the Government that has turned a cold shoulder to this necessity of some store of food for the Army and the Nation in time of war? Why, the last military Commander-in-Chief told me whilst he presided in that Chair at a crowded meeting: "This food question is a bogus question got up by naval officers for the aggrandisement of their own Service." I said: "It is the other way about. If you will establish magazines of food, the Navy will not require half the cruisers we now require to protect the foreign food supply: every nation in Europe has Government magazines of food—the Germans always have six to nine months' supply of food in their magazines for the Army. (*Vide* Foreign Office answer to Bristol Chamber of Commerce.) Then he said: "I am well acquainted with the ports on the West Coast of Ireland, and I know it is impossible to blockade those ports. I feel sure that our fast steamers will bring us all the food we require." My answer was: "During the cotton famine in Lancashire the English blockade runners were most successful in bringing cotton to Liverpool, but did not prevent the price of cotton rising from 4d. to 2s. 6d.," and famine was rife in Lancashire. If your Lordship will read "bread" for "cotton" you will know what the price of the poor man's loaf will be at the outbreak of war. The lecture we have heard to-day, though it has gone over old ground with which everybody who has considered the question is well acquainted, has certainly brought the question more clearly before the public. There was a little too much detail about it, but you can see now where the danger is. I will ask the lecturer one question. In your detail of giving nine months' food, six months' food, and three months' food in each period of the year, you say it is rather better than what we have been accustomed to. You are quite right, it is better; we had always put it down at two months. But have you deducted the seed for sowing the ground?

Captain STEWART MURRAY:—Yes.

Admiral CLOSE:—Because you must know that when war breaks out, these ministers who now turn a deaf ear to this food question, will, as Gladstone did at the Russian scare, ask for millions in the House of Commons, and will offer the farmers any amount of money to plough and sow their land, so that you must keep a large margin of seed for that purpose and panic prices. How, Sir, can you expect to get this question attended to? You have brought it forward at a most opportune time. Why? Because Lord Roberts is reforming the Army, and has not forgotten the pangs of hunger his army suffered at Bloemfontein, which lead the correspondent of the *Morning Post* to write "our stomachs rule the world." If his Grace will allow, and if it is not out of order, I would ask permission to move a resolution, viz.:—"That this lecture be sent to Lord Roberts with a request that he will take into his favourable consideration the necessity of military magazines as they have in Germany, and all the great European

Powers." I do not know if such a resolution can be allowed, but that is the only way I can see, the only chance that we have to make this Army of ours efficient as a defensive force, who are willing to do and to die for their hearths and homes, but will be helpless in defence of the United Kingdom for want of food: I would add, follow the example of the handy man, the Royal Navy, who have large magazines of food at all our chief stations at home and abroad. The same military reasons that obliges Malta and Gibraltar to be provisioned, applies now to Great Britain, as we no longer grow corn.

The CHAIRMAN:—I am told it will be unnecessary to move that resolution, because the lecture will be sent to Lord Roberts in the natural course.

Admiral CLOSE:—Where it will be officially pigeon-holed to save trouble.

Mr. H. SETON-KARR, M.P.:—My chief remark on the very interesting lecture that we have listened to, is that it has such a great scope, and that it covers so much ground, and has so much detail in it, that it is almost impossible for us to discuss it fairly on one single afternoon. I have listened to it with the very greatest pleasure, and I will only venture, in a very few remarks, to deal with one or two points. I should like also to say a word or two on the general subject, which has been so exceedingly well dealt with by my friend Admiral Close. With regard to two points, Captain Murray talks about the possible combinations against us, and the power that Governments would have to buy up the supplies of wheat, particularly in America. I should like to emphasise that point for a moment, and even to carry it a little bit further. I am inclined to think that our authorities, so far as they appear to show signs at the present time, our military authorities and our Statesmen, do not sufficiently appreciate this danger. It is a danger with which the Navy is absolutely powerless to deal or to prevent. But Captain Murray has rather suggested that it is only by the action of hostile Governments like France and Russia that the purchase of wheat in America and possibly other countries would be made to cut off our supplies; but I should like to point out that it might be done even in a much more simple way, and without any hostile intention against this country. It might be done by American financiers and capitalists merely for the sake of making money. We know what enormous amounts of money American capitalists control, and they have shown that the one thing they delight in is to make a corner. I know America very well. I have been there very often, and I know it is the dream of many an American financier to make a corner in wheat, for the simple reason that wheat is an absolute necessary of life, and he knows that if he made such a corner he would pile up a gigantic fortune almost beyond the dream of avarice. The reason why, so far, no man, or no set of men, have been able to do it, is that so far they have not been able to foresee or control the general supply and demand of wheat, and, moreover, the conditions under ordinary circumstances are so gigantic. Three years ago, you will remember, there was an American, an individual, who did try it. He thought that the condition of the wheat supply in that particular year justified him in trying a corner in wheat. He was mistaken, and lost his money, and failed, simply because unexpected supplies of wheat were sprung upon him from unexpected quarters. But he did do this. Although he failed and lost his money, he managed to put up the price of wheat in this country, by the single operations of that one man, that one brain, from 25*s.* to 40*s.* per quarter for some time; and I am glad to think that it did, because it put a good deal of money into the pockets of a number of deserving British farmers. If the conditions had been favourable to Mr. Leiter's operations at that time, three years ago, there is not the slightest doubt that a set of American financiers could make a corner in wheat, and sit upon that wheat, and sell it to the British nation in their necessity, if they chose, at a sovereign a grain, or any price they chose to ask. One of these conditions would be, indeed the most likely hypothesis is, that we should be at war with France and Russia, or Russia alone. Russia has before prohibited the export of wheat for State reasons, and she might do so again; and if once the ordinary channels of supply and demand were interfered with in that way, then would be the American financiers' opportunity. They might be perfectly friendly to England, but they would not be able to resist the oppor-

tunity of making a gigantic fortune. The price of wheat is a question of purchase and sale, but they would not be able to make a corner in wheat under the unfavourable conditions which Mr. Leiter had three years ago, when all wheat markets were open. There is not the slightest doubt, on the other hand, that they could put up the price of wheat in this country in the case of an European war, such as I have suggested, to almost any price you like to think. That is the danger which I venture most humbly to suggest our statesmen and our military authorities have not sufficiently grasped. I think that here we come to the main question which I want to emphasise, namely, the issue between those who, like Admiral Close and myself and the lecturer, and many others I dare say in this room—the issue between us and the Government, and that issue is that the Government, on the one hand, say that this is a question of the Navy and the Navy alone, and we say that it is a much greater question than that, that certain conditions may arise: that you may have the Atlantic Ocean plastered over with British cruisers and ironclads from Sandy Hook to Queenstown, or from the North Pole to Gibraltar, but you will not be able to deal in that way alone with that danger. I have already mentioned one reason why that should be so. It seems to me that the line we ought to take is that we ought to do our best to educate public opinion to force this question upon the Government, and to convince the people of this country that this is a great deal more than a question of the Navy alone. I have never argued this question on the hypothesis of our losing command of the sea. If we lost command of the sea I believe that our greatness is absolutely gone. I think it is an absolutely essential condition, whatever else we may do, that we maintain a 2-scale or 3-scale Navy, or possibly more, but on the top of that comes these dangers involved in our obtaining our wheat from foreign countries. On the 6th April, 1897, I moved a resolution, which my friend Mr. Yerburgh seconded, in the House of Commons, in the following words:—"That in the opinion of this House the dependence of the United Kingdom on foreign imports for the necessaries of life, and the consequences that might arise therefrom, in the event of war, demand the serious attention of Her Majesty's Government." We purposely framed that resolution in very general terms, because we wanted to fix the responsibility of going into details and suggesting remedies on Her Majesty's Government: but although the Government possess all the facilities for going into the question and have Government departments under their control whose business it is to find remedies for a great national danger, Mr. Balfour answered us that he accepted the motion on behalf of the Government, but declined to inquire into remedies. He said: "Yes, we accept this motion fully and freely, and we say that this is a question for the Navy alone," and there it rests. I raised the question two years ago in the debate on the Address, but we could not get any further than that, and that is the view, so far as we know, which the Government takes now. "We give you a strong Navy, and you must trust to chance for the rest." I want to bring that issue clearly before the people of this country on every possible occasion, namely, that this is more than a question of the Navy. We must have an examination into the whole of the conditions of the case, and inquiry, if you will (if we can get it), with a view to adopting some kind of remedy, possibly one such as suggested by the lecturer, or the adoption of national granaries such as suggested by my friend Mr. Yerburgh, and possibly some means—perhaps this is rather more hopeless—by which we could encourage a greater production of wheat in this country, and have a more stable market for that product. But it is impossible to deal with these details this afternoon. It seems to me those are the lines upon which we ought to act. I was rather struck with the remark made by Admiral Close about now being an opportune time. There are a certain number of people who have said the Government tells us this is a question of the Navy alone, and the Government ought to know all these things, and we will not trouble our heads any more about it, because the Government have taken the responsibility. But it seems to me that the history of the past 1½ years has shaken the confidence of the people of that school, because 1½ years ago we were told that this present war would only require about 50,000 men, and that it would not last much more than six months, and that it was not necessary to send out

anything like the number of men we have had to send out. We were told various things with regard to it, not one of which has turned out correct. If the Government can be so much out of their reckoning with regard to a great war like this, as it has proved to be, and all the conditions which are involved in it, what guarantee have we got that they are not similarly out in their reckoning with regard to the power of the Navy to supply us with food in the event of a war? I think that is a very fair and reasonable and logical ground to take, and to endeavour to drive into the heads of the people of this country. I do not believe we shall ever get the Government to move a step with regard to going into these schemes, Captain Murray's schemes and other schemes, in endeavouring to find out the best way of garrisoning this country against a siege or European war, unless the public opinion of this country forces them to do it. That is the most powerful engine we have. We have tried it in the House of Commons and we have failed, and I do not suppose that if we moved a motion—if we got a chance of moving a motion to-morrow—that we should get it further. The Government have a great deal on their hands, but if public opinion is aroused on this question of the necessity of having an inquiry, and some provision made against possible starvation in time of war, no doubt, sooner or later, they will get it. One further remark I will make before I sit down, and that is the point of how long we can last. Captain Murray, I think, said that we could last, if I remember, for 4½ or 5 months. With all due deference to the lecturer, I am inclined to think that he has put that in rather too favourable a light. Three years ago I looked up all the figures on that point. It is very hard to get accurate information—I am only dealing with wheat and flour, not with meal and oats; it is very hard to find out the exact amount of wheat and flour and bread-stuffs in the hands of private millers and dealers in this country, but the conclusion I arrived at after a great deal of patient research and study, for what they were worth, was this, that the maximum amount of supply of wheat and flour that we have ever had in this country was three months or four months—I will take four months as the absolute maximum, if you like. The minimum was three weeks. Many times, particularly in the winter, after the crops had been harvested and distributed and sold, and a good part of them consumed, at that time of the year I believe we have not very much more than three weeks' supply of wheat and flour in this country. I think, therefore, that it is over-stating the case to say that we could last four or five months if war had been suddenly declared. You must remember this, that suppose war was suddenly declared with Russia or France, this is a question of private individuals having a certain amount of the absolute necessities of life in their hands, and they could not resist the temptation of putting up the price. They are bound to make a sort of mild corner to put up the price. I admit that it is only a question of price. You have only got to pay a high enough price to get the wheat from somewhere in time of war, but when once you put up the price in this country you are face to face with the danger of industrial riots with the working-classes; you may involve yourself in a most awful sea of trouble, and the danger may be precipitated much sooner than you think. I most certainly think that with regard to the period of supply it ought to be stated much lower than the figure which the lecturer has mentioned. I am very glad to have had an opportunity of listening to this interesting lecture. I hope we shall take every opportunity of endeavouring to impress what I conceive a most important question on the people of the country, and by that means—and by that means alone—shall we get the Government to do anything.

Mr. G. BROOMHALL (Editor of "The Corn Trade Journal," of "Milling," and of "The Corn Trade Year Book"):—I had not an opportunity of studying Captain Murray's paper before I came into the room, but I find it so carefully covers the whole ground that there remains very little to be said from a statistician's point of view. As far as I am able to judge, his statistics are presented in a spirit of absolute fairness. I think his estimate of the reserves are much more nearly correct than the figures mentioned by a previous speaker. A glance at our shop windows is sufficient to prove Captain Murray's case in a general way. Practically we are dependent on the States or Germany for half of what we consume. I might add one instance of the effect of an

attempt to corner the wheat market which has been previously referred to. It took place in Liverpool three years ago. Mr. Leiter, of Chicago, a young man of twenty-five years of age, saw the stocks in this country rapidly decreasing, until some time in the autumn of 1897 they had fallen under one million quarters in merchants' hands, that is to say, a fortnight's supply. That, however, is exceptionally low, but it was what I forecasted as likely some day to happen in my evidence before Mr. Yerburgh's Committee in 1895. Mr. Leiter began buying wheat at about 25s. a quarter. It had risen from below 20s. a quarter in 1895, and by very small purchases, relatively speaking, he ran the price up to 55s. a quarter in Liverpool some time in May, 1898. Business almost came to a standstill, and merchants were on the point of losing their heads. Many said that the price on the morrow would be 65s. and the next day 75s. However, in the nick of time Mr. Leiter's operation came to grief, for he entered upon the hopeless task of attempting to corner the next crop before it was harvested, and as a result all his plans failed. It is my opinion, and I submit it humbly, that if Britain were to lose command of the sea, prices would not stop at 100s. as many people believe who have the prices of the Napoleonic era in their minds. At that time we grew practically all we needed. Now we only grow merely about a quarter or a fifth. I am prepared to see wheat at 200s. a quarter in the event of our losing command of the sea.

Mr. R. SNOW (The well-known Chicago Corn expert):—As an outsider, it is perhaps questionable taste whether I should publicly discuss any question about internal policy such as you have under consideration to-day: but if you will pardon my halting methods, which result from the fact that I am not accustomed to public speaking, there is one point brought out in the paper to-day that I should like to call especial attention to in the shape perhaps of partial criticism. In the lecture a supposititious case is put by Captain Murray, the possibility of the Government or a large operator buying up in a day or two, a few days, enough wheat in the American market to deprive you of your usual supplies. It seems to me there is a misconception in this statement. The quotation is often made—if you will allow me to speak in bushels rather than quarters, because it is the figure with which I am more familiar—that frequently from 8,000,000 to 20,000,000 bushels may be bought in a single day in either of the great markets of New York or Chicago. That is only a half truth. An operator who has an unlimited supply of money can go on to those markets and buy a promise to have delivered to him at a future time that amount of wheat, but he could not at any time buy that much without seriously disturbing the position of the wheat market of the world, the actual wheat. In other words, in the course of a few days, before it should become apparent that some concerted effort was being made to corner the wheat of the world, an operator, or a series of operators, might acquire options or perhaps a couple of hundred millions of bushels of wheat. But I want to call your attention strictly to this fact—that while they would have the option on 200,000,000 bushels of wheat they would simply have the promise of a number of gentlemen more or less responsible—or shall we say perhaps irresponsible?—to deliver that wheat—gentlemen who did not own a bushel of it at the time they sold it. Therefore, before that wheat could be delivered to these operators the world which uses the actual wheat would have the same opportunity to go to the small holders of the elevators, to the farmers of America, and buy the cash wheat, and thereby make it impossible for the man who sold the option on wheat to deliver it at that price, so that a test of that kind would become in the States simply a question as to who had the longest purse. The point I want to make very clearly is this—that while in the ordinary course of trade in those great markets there may be in a day transactions in Chicago of sometimes more than 20,000,000 bushels, apparently in the trade marts, yet transactions on options of millions of bushels do not have the same effect upon the price of the actual wheat as the sale and delivery of 150,000 bushels of cash wheat. Therefore the operator who should happen to secure options for future delivery of 100,000,000 bushels of wheat might or might not get the wheat. He would get it if you did not overbid for the cash wheat to the people who own it.

The CHAIRMAN:—It is, probably, in accordance with your feelings that, as several other gentlemen wish to speak, we should adjourn this discussion to 7th March.

The Discussion was adjourned to 7th March, when the chair was taken by Admiral of the Fleet Sir JOHN EDMUND COMMERELL, G.C.B., V.C.

The CHAIRMAN :—In the absence of the Duke of Northumberland, I have been asked to take the Chair and preside over the discussion of this interesting lecture, the discussion of a subject on which the country's existence will hinge very much in the future. Unfortunately I was not able to be present when the lecture was delivered, but I have read it through two or three times, and I shall have, later on, one or two criticisms to make. In the last discussion, Mr. Charles Booth's private secretary spoke on Mr. Booth's behalf, stating that the estimate of the limits of the purchasing power of the poor was modest and correct. Also Mr. Broomhall, editor of the "Corn Trade Year Book," the great corn trade statistician, stated that the corn trade figures were correct. Reading through the paper, it seems to me that the lecturer has taken the greatest possible care in collecting all that he possibly could to put the right figures before us.

Major E. A. ALTHAM (D.A.A.G. for Military Intelligence, *p.s.c.*) : I think before criticising the lecture we heard last week, it may be as well to say that we ought to be very grateful to the lecturer for the extremely able manner in which he put before us this very interesting and momentous subject. My remarks will rather have the object of eliciting from him further information on matters which I am not quite clear about, and which others also may not be quite clear about. It is not so much criticism as desire for further research. Captain Murray based his project, if I may use the word, on two main foundations, if I understand his paper rightly. First, he anticipates the possibility of this country meeting with some great reverse at sea, which will necessitate our fleet's retiring to the protection of the naval fortresses and there remaining for one or possibly two years until we can build sufficient ships to re-establish our naval supremacy, and he puts forward a detailed plan by means of which this country could, with the food already in the country, hold out for that time. I think the first thing the lecturer will have to do in order to induce the Government, and still more the people, of this country to move in the matter, is to persuade them that his hypothesis is sound. Mr. Seton-Karr, who we all know has rendered great service in the country in putting this matter before the public, told us, that so far as his own personal information went, he thought that if our fleet suffered serious defeat at sea the game was up ; and I must say that personally I have always imagined that to be the general opinion of all our naval strategists, and that the defence of this country was based upon that hypothesis, namely, that the one thing, and the one thing only, we must look to is supremacy at sea. If we allowed our fleet to sink to such a degree of weakness that we suffered absolutely severe defeat at sea the game will be up. I do not mean for one moment to minimise the pluck of the lecturer in anticipating our holding out for another two years, but I would put it to him whether it is not a dangerous doctrine to preach that such a hypothesis should be counted on in our plans? What we have to urge on the people of this country is to strengthen the Fleet so that such a hypothesis should not be possible. His second foundation is that, apart from the question of naval defeat, there is a possibility of Continental Powers, by means of secret agents, making a sudden dash on the wheat market in America, and before our Government could turn round, buying up all the wheat, or at any rate sufficient of it all over the world to practically starve out this country. I will not deal with that point more than to say that I was very much struck with the remarks of a gentleman who evidently spoke from practical experience, an American gentleman, who told us that we might dash into the market of New York or Chicago and buy an enormous amount of wheat, but we should be buying merely options and no wheat at all, and it would be still open to the Government or to private individuals to prevent the sellers of the options acquiring the actual

wheat which would enable them to carry out their contract. That is a point I would press very earnestly on the lecturer's attention, because that is his second foundation, and it is essential in discussing these most important questions that we should start on a sound basis. Mr. Seton-Karr suggested to us a further basis, which I think is one deserving of very careful consideration. He told us that in his opinion, and I understood that Admiral Close concurred in that opinion, our Fleet, although supreme at sea, would not be able to afford such protection to commerce in time of war as to enable the food supply to reach England. That is a point which I will not venture for one moment to offer an opinion upon, but I do hope that naval officers who are present will give us the benefit of their views on this subject. It seems to me a vital question and one that cannot be thrashed out too thoroughly in an Institution of this kind. If it is true, then certainly the matter which our lecturer has put before us is of very vital importance. So much for the foundation of the subject, and now to suggest one or two questions as to his methods and machinery. His remedy is an entirely different remedy from that which Mr. Yerburgh's Committee presented to the House of Commons, and his figures differ very materially from the statements of the witnesses which are recorded in the report of that Committee. I do not for one moment criticise his figures. It will be impossible in the course of a discussion of this kind to do so. I have no doubt they are correct, but I would merely invite the lecturer's attention to the divergence of his figures from those laid before the Committee by the experts who were called as witnesses. If Captain Murray's figures are correct, then the project submitted is one for discussion and consideration. But if they are not correct, that is to say, if Mr. Yerburgh's Committee's figures are correct and if that Committee were rightly told by certain witnesses that there is only a food supply for six weeks in this country at certain times, I think it follows that it is worse than useless for us to further consider whether we can make that food supply for six weeks last for two years. Then as to the details of the machinery which Captain Murray has suggested. There is one point I am very anxious to hear his opinion upon, as to what legal power is to be used in carrying out this project. I cannot help thinking that in his own mind he rather depended on martial law—perhaps I am not doing him justice—but if so I will suggest to him that the mere fact of the Government of the day having to come to Parliament and ask for £15,000 a year expenditure for the peace machinery which he suggests would entail the whole question being discussed in the House of Commons, and most certainly force the Government either to abandon the project or to take legislative power from Parliament. I think, therefore, that as this project stands it would be essential that the Government should not only be convinced in their own minds as to its necessity, but should be able to convince the nation at large, and it is for that reason, I think, that we should be especially grateful to Captain Murray and others who keep this subject alive before the public. Of course martial law could be utilised on the spur of the moment for carrying out a matter of this kind, that is to say, could be theoretically; but if it is martial law that Captain Murray relies on, I would suggest to him that there are enormous difficulties in this country in carrying out the organisation of machinery which would interfere with the hourly and daily life of every man, woman, and child, in the country. We can enforce martial law in South Africa, where the country is very thinly populated, and our troops are in enormous predominence as compared with the civil population, and where every able-bodied man in the country has a personal interest in the war: but I question very much whether in this country, where even in time of war, troops would be in a very small minority compared with the mass of people, it would be practicable in Birmingham, Manchester, London, or other large towns to carry out any measures of martial law unless and until a large hostile army had actually landed on our shores. I do not think it would be practicable. I think, therefore, that to carry out any system by which the Government took over the food supply of the country and doled it out to every man, woman, and child at so much a day, could be only carried out with the free consent of the people and by a law passed in Parliament in peace-time. As to the details of the lecturer's scheme, I would not criticise them further than by saying I think he minimises the amount of food

which it would be necessary for the Government to give out. For instance, I do not think he makes the allowance sufficient for soldiers and sailors and people engaged in Government works, such as the dockyard hands who are building ships on which our safety depends, and the miners who have to dig up the coal on which those building operations depend, and so on, all of which people would have to be kept in full physical vigour in order to carry out their work or defend the country—and I venture to think it would be a great mistake only to give those people half-a-pound of meat a week. I know in the sieges we have experienced in South Africa during the war, at the end of the siege of Ladysmith for instance, the garrison was so weak that the men were practically unfitted for their duty as soldiers. The infantry could not have marched more than four or five miles. Apply that to England. If we kept our soldiers or sailors for five or six months on half-a-pound of meat a week you would find the men, when the enemy did land, could not defend the country. You would find the dock-hands could not build the ships, the coal miners could not dig the coal, the railway hands could not run the trains down to the dockyards with the coal, and so on. Therefore, I think, the ration would have to be largely increased for these classes. Then there is the question of whether other things besides bread and meat should not be included in the rations, for instance, milk. If a third of the population of this country are to be put on rations and are unable to buy things in the market owing to the prices, you will find other things besides bread and meat absolutely necessary to life. No man, woman, or child could live for two years on bread and meat only, although they might do so for a short time. If you fall back on South African experience in these matters you will find that whenever there was a real extremity everything had to be taken into consideration, and rations had to be made of everything, especially milk, where children were concerned.

Colonel E. GRATTAN (late Army Service Corps) :—There can be no doubt that the subject we have met to discuss is of vital importance, and Captain Murray has adduced arguments sufficient to justify an enquiry being instituted by the Government. Some people think a big Navy would afford us sufficient security, others that a powerful Army to repel invasion is our main requirement. But, however improbable we may think it, the Navy might be defeated, and then our enemies could starve us out, without landing a man on our shores. Assuming we were at war with America and Russia, from which countries we import more than half our annual supply, how should we fare, even supposing we held command of the sea and had a perfect Army? India, Australia, and Canada could not afford to part with a single quarter of the comparatively small quantities they send us in peace-time. They would be bound to hold, to meet contingencies, and owing to the impetus invariably given to markets on war occurring, Argentina could easily dispose of double her surplus in Continental and other countries. We should thus be restricted to the quantity we produce at home and whatever stores we might have in hand. Our case might be made much worse even than the paper puts it. If the two countries named, or any others, determined on making war against us, they could, before giving us warning, buy up, by means of agents, a very large portion of our stores for immediate shipment, and have them out of the country three weeks or a month before our traders could replenish. Merchants deal in wheat for the purpose of making profit, and we cannot expect them to refuse a good offer when it is made. It is the business of the Government, not the merchants, to think for the people. But, supposing everything to go as well as the most optimistic could desire, and that the enemy, with British magnanimity, refrained from interfering with our trade, exporters would double, possibly treble, the prices, their importer would have his profit; and, whatever dreamers may say to the contrary, there would be severe want and panic amongst the masses in this country. I need not further elaborate the arguments of the lecturer. To my mind he has established an overwhelming case for enquiry. With regard to the details of his scheme. Several methods are suggested for ensuring a sufficient reserve. No. 1 is open to many objections, I will mention but one: it would not be kept up. Some needy Chancellor of the Exchequer, finding he had £15,000,000 or £20,000,000 to play with in the shape of wheat, would utilise a few

millions of it in other directions, and gradually the reserve would arrive at the vanishing point. No. 2 has even more serious objections, but the one I have urged against the previous proposal applies to this, the quantity required to be kept would be gradually reduced in order to reduce the subsidy. No. 3, ditto. No. 4, there are really two propositions here under the one head, the first I will dismiss, as it is open to all the objections that can be urged against the first three. The second suggests a duty on foreign wheat. Now, seven out of every ten Englishmen think we are a free trade nation: but we are not, because a considerable proportion of the national income is raised by duties levied upon imports. This proposal, therefore, seems to me to be the simplest, most natural, most effective, and most economical of them all. By merely changing the incidence of import duty, the object in view can be effected without any violation of principle and without expense. If a duty were imposed upon foreign wheat to enable the farmers in Great Britain to raise the grain at a fair profit, and the amount levied were returned to the taxpayer by remitting the duty on tea and other articles, no one would be damnified. The remissions would need to be carefully worked out to ensure that the poorer classes get a full return for the impost on their bread. The masses in Malta, who are infinitely poorer than the corresponding class in this country, pay a duty of 10s. per quarter upon their wheat without a murmur. Half the amount imposed in this country would make wheat-raising pay, and this would add to the price of bread about one-eighth of a penny per pound: but if it is returned by the remission of taxes on other articles, it is difficult to see where hardship could come in. In consideration for the protection given to agriculture, Parliament should pass an act making it imperative for all leases of agricultural land to contain a clause requiring a certain percentage of it to be laid down in wheat; sufficient to enable us to carry on from harvest to harvest. Please go into the statistics of land before dismissing the suggestion as impracticable. The quantity of the proposed ration is, I believe, quite inadequate. In Malta, where the staple article of the peasants' diet is bread, each man eats about 2½ lbs. per day seasoned with olive oil, cheese, or salt fish, and, as a rule, they have a dish of vegetable soup at night. The medical profession might be asked for a definite opinion on this point and also as to whether brown bread would answer as a regular article of food. Official experience in the issue of brown bread to troops leads me to doubt it. The bran acts as an irritant on the intestines and is apt to induce bowel complaints: moreover, it does not possess any nutritive qualities. With regard to the proposed food supply department, I am afraid it is impracticable. Any expert will tell you that providing food in bulk is a simple matter, and difficulties really begin when you come to distribute it. Assuming we have the wheat in importers' and other stores, legislation I fancy would be necessary to compel holders to render returns of the quantities to the central office. A record would have to be kept of the daily issues from, and remains in, each store. Every store must have issues and classes, mills must be selected to convert the wheat into flour, means arranged for conveying the wheat to the mills, a staff appointed to each mill to keep records, make issues, and arrange for the conveyance of the flour to the 20,000 or more distributing centres. A staff of accountants would be needed to keep the wheat and flour accounts against each store, mill, and distributing centre. A similar staff would be needed to keep the cash accounts, as, I presume, it is not intended to feed the entire population gratis. A payment system would have to be instituted. If the department undertook the baking the matter would be further complicated. Escorts would be required to protect the consignments of flour when moving between mills and distributing centres through poor or rough districts and in the lower parts of all large towns. The scheme would readily lend itself to peculation and fraud of the grossest kind. These are only a few of the difficulties with which the scheme is surrounded, and I am afraid that few but those who have had practical experience in distributing food to large numbers will realise how insurmountable they are. Not very long ago I was engaged on a scheme for providing and distributing food in war to the civilian population of a small but very important Colony, and the enormous difficulties that presented themselves in the way of effectually feeding 180,000 people

scattered over an area of about 130 square miles, convinces me that it would be a practical impossibility for a Government department to feed a population of 40,000,000, occuping an area of over 121,000 square miles. My excuse for differing so widely from Captain Murray is that I have had a very extended experience of the subject for many years, and am intimately acquainted with all the details of supply and distribution. Time will not admit of my dealing with the other articles of diet, but I may say that it would be infinitely less complicated to retain the existing system of distribution by the trade, controlling it by regulations through the local authorities and their police. An efficient check could be imposed upon the tradesmen and the business of the country would not be paralysed. Just reflect upon the enormous number of experts now employed in supplying food to the inhabitants of these islands, the countless ramifications of the business and appliances engaged in it, and then imagine the duties being taken over in the throes of a war by a Government department, the major portion of whose staff would have neither training nor experience in them. Just a few words more before I sit down. In the indeterminate condition of international law, would it be wise for the Government to take over the food supply, even if it could do so with a chance of success? Supposing France was one of our opponents, she could secede from the declaration of Paris and fall back upon the precedent established by England in 1793, when she declared food contraband of war on the ground that there was a chance of reducing France by famine, and the French executive had assumed the direction of the corn trade of their country. You cannot enforce law without force behind you, and as there are no international police, it is probable that, in the event of complications arising between us and other maritime Powers, they would fall back on the same precedent, should our Government take over management of the food supply.

Captain Sir JOHN COLOMB, K.C.M.G., M.P. (late R.M.A.):—I would, in the first place, say that, knowing something from past study of this question, the gallant lecturer deserves immense credit for his laborious research in getting together a vast quantity of statistics hard to obtain. I think the Institution is extremely indebted to him for placing at its disposal information as near up to date as possible, which is certainly useful. But I wish to say one or two words of warning upon the broader aspects of this question. I know the tendency and the danger: if you throw great labour and research into a matter, concentrating your mind to a particular thing, you are very apt to leave out a great many other considerations by being so engrossed in a particular aspect of a particular question. I venture to think that in this case the lecturer has fallen into the error of looking at the food supply with a microscope and at all else through the wrong end of a telescope. He starts by saying that we are hated by all and are supported only by our Fleet. Now, in the first place, let us be clear of our perspective of the picture of British defence. We are an Empire, and not a nation. British food and everything else British that makes a nation or a State is scattered over the world, and all portions are separated by sea. That is a position you cannot get away from, and that is the main fact you have to bear in mind, in contemplating a state of siege of the United Kingdom as the lecturer does. I beg everybody to remember that there is no use holding out in a state of siege unless there is a possibility of relief. It is no use contemplating it. Does he imagine that under the conditions where all the communications of the Empire are cut, where the economical position of the whole Empire is ruined because of the suspension of exports and imports, that any amount of corn in this country and any amount of men in arms can save this Empire? It cannot. From an economical point it cannot. He supposes a defeat of the fleet; but when that comes, is his object to be prepared for a state of siege in order to tide over the time when you can again contest the sea? If not, it is useless to contemplate that position at all, and, therefore, I protest against the doctrine of basing any principle of defence upon the supposition that the question is one of the preservation of the territory of this island only. He lays down three proposals of Imperial requirements. He says we must have a Navy equal to three Powers. I protest against the doctrine, and have always protested against the doctrine, of defining

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your naval requirements by any abstract rule-of-thumb comparison by numbers of ships. It is a far more complicated question, involving the distribution of enemies' ports of issue to attack, and of the distribution of your commerce in relation to possibilities of its attack and defence, and I cannot conceive that it is justifiable for anybody to come here and say that the question is a simple abstract one of a two or three-Power Navy. I cannot say more because I do not wish to occupy time. Whatever happens and whatever it may cost, under the conditions of your sea Empire and your water communications, you must, and you are driven to it, have a Navy competent under all reasonable circumstances to maintain your freedom of the sea. What does that involve? Ability to command and retain the freedom of the sea means the restriction of that freedom to your enemies, and as you are, in maintaining your own freedom of the sea, really putting restrictions on the freedom of the sea to your enemies, what becomes of all these theories of great invasions and descents on your territories? They vanish. There is only one other alternative when you have lost the freedom of the sea—to give in. My conviction is, that, if you have lost that, you have lost everything and have got nothing left. The third requirement he puts forward is the principle of universal service for home defence. That goes with the rest of your armament. Your Army is ruled by the necessities of the freedom of your sea position. It is an Army to strike you want, and not to sit down to wait to be attacked. With regard to a Government reserve of food supply, I object altogether against everything of the sort. I think our true granaries are in those vast areas under our flag over sea where any amount of food can be raised, and if you have the freedom of the sea it is as safe for practical purposes there as if it were in home granaries. Then, he says, look at the dangers of a wheat corner in the States! But what is his remedy? That is a danger we know of, but what is his remedy? To turn the Government of this country into a great wheat cornerer itself! I protest against it. Think for a moment what it means: that the Government are going to be the greatest corn dealers in the world. The question of when the Government is going to buy or put the corn on the market complicates the question, and it is utterly impracticable from the commercial or economical point of view. That is all I have to say, and I am afraid I have said it very badly. But I do feel very strongly. The question of the moment is Army reform, and we are losing sight of the fact that the nature of the Army is ruled by the principle that you must retain your sea control at any cost, which, as I say, means its restriction put on your enemy. In conclusion, I would submit to the gallant lecturer the importance of looking a little deeper. You must not only look at the question of the food in this country at different times, but you must look at the natural causes, the natural laws of the world in the production of food supply. There are laws which govern the nature and extent of its periodic distribution, which, I think, the lecturer will forgive me for saying he does not quite appreciate. Your supplies on the ocean, for example, vary as regards time and place. I would just give you a rough example. The maximum amount of danger on the sea to the food supply of this country in the North-East and North-West Atlantic is in the third quarter of the year; whereas in the North Pacific it is in the first quarter of the year. The direction of supply is not constant. It varies at ports of origin and further varies in its oceanic accumulations with different times of the year. To the real problem sufficient attention is not given. It is two-fold. First of all, we are not encouraging as we ought the cultivation of corn for import into this country from our own Colonies. And, secondly, I do think there is a defect in the information given to our senior naval officers as regards the operations of natural laws in determining at different times and in different latitudes and longitudes the distribution of food on the sea. Those are the two ways, I think, in which to approach this question. You must accept the position that, as an island, you cannot produce enough, and what you have to do is to encourage within your own Empire the cultivation of the food where it can be most easily and cheaply grown. Any policy of that kind, I think, is worth carrying out. Your Fleet must ensure that that corn shall have free transit from the different ports of your Empire over your own lines of communications, which are by sea. I quite agree with the vast importance of this question. There are a great many dangers

ahead of us. We must look broadly at them. If we mean to defend our Empire, all parts of our Empire must realise that they must help to find the money and the means of securing the freedom of the sea by the combination of all the resources of the Empire for that purpose.

Mr. W. T. J. PITTAR, C.B. (Ex-head of the Statistical Department and now Member of the Board of Customs).—As a civilian, my observations must be very brief, and I shall not attempt to offer any criticism upon the military and naval arrangements. As regards the observations of the previous speaker, I may say I have examined carefully the figures in this paper—a paper for which I think we are all deeply indebted to Captain Murray—and it appears to me, as one whose life has been spent in the manipulation of statistics, that his figures are correct as regards the facts which he cites. Of course, as regards the enormous totals that relate to the food supply, the stock in the country, the danger and the cost in certain events, the figures are naturally but estimates, and it appears to me are reasonable, if we first of all suppose that the supreme catastrophe has happened to us which Captain Murray postulates. I think one of the principal benefits for which we have to thank the author is not so much, perhaps, the actual arrangements which he proposes, as the drawing of public attention to the whole matter. The question appears to me to be: Are we prepared to do our duty, or have we sunk into an emasculated state of mind in which the proper military service which any strong man who wishes to keep his house in order and should willingly give to guard his own country, is too much for us? We live in an island, and seem to presume that because we live in an island, and because we have lived for a few hundred years with tolerable exemption from invasion, that state of things will go on for ever. But we have to take into account the fact that other nations around us have armed themselves to the teeth and are animated by no very friendly spirit towards us; and if that goes on while we remain seated in our arm-chairs, with our young men idling at home or devoted only to money-making or amusement, and rendering no military service either voluntarily or otherwise, our nation is not prepared to meet the emergencies which may some of these days come upon us. This paper will perhaps awaken us from the sort of coma into which the nation by the long period of security it has enjoyed has fallen. There remains the question of finance, upon which I should like to say a few words. The immense figures that are involved in the calculations of Captain Murray must, I think, show us that the truest economy is to be wise in time. When we were a poor nation, at the beginning of the last century, we fought one of the most tremendous wars the history of the world has ever known. We were a nation of about 18,000,000 people. We were excessively poor. No one who reads the records of that day can doubt the awful level of poverty which then prevailed in the country. Many skilled artisans, indeed most of them, in these prosperous days, are in the enjoyment of as much comfort, and in many respects of more comfort, than the small gentry of those days, and yet in those days they supported an income tax of 10 per cent., and paid it very willingly. There were riots, but they were generally bread riots. We entered into the French war of 1793 with, I think, an aggregate taxation of about £19,000,000, which was raised in the following 7 years to nearly £40,000,000, more than 100 per cent., and yet there was no outcry. The people paid it, although they knew they were heavily taxed. Go back to such books as "The Annual Register," and there you can easily gather the general level of misery, but you do not gather that there was any general objection to paying the money necessary to keep up the credit of the country. But what do we see in the present day? There is an income tax of only 1s. in the £; we are revelling in the most tremendous prosperity that the world has ever seen, and yet when we have an income tax of 1s. and a few duties upon commodities—say, 20 against the 2,000 or so of the years 1800 to 1815—we almost whine at our hardships. It is scarcely possible almost for the Chancellor of the Exchequer to propose a new tax without the interests affected rising almost to the point of rebellion—at any rate, the objections raised are so great that you would think people's sustenance was on the point of extinction and their industries threatened with destruction, all because they are asked to do a small portion of what they would not have been con-

sulted about at the beginning of the century. Then they strove to pay, and I think paid more willingly than they do to-day. In conclusion, I shall content myself with thanking the lecturer for the very valuable paper which he has given to us, hoping that it will attract the public attention and obtain the hearing that it deserves.

Mr. THOMAS G. READ :—Last week it was with great interest that I listened to Captain Murray's paper on a subject that for some years has received much of my attention. Captain Murray approached the question largely from the point of view of what to do with the food in the country during war. I have approached the question more from the point of view of how to increase the supply of food in the country during peace, so that in time of war there shall be sufficient to go round. There are a few matters I should like to draw attention to regarding the dangers of our present imported food supplies. Our food coming by the Pacific is mostly carried in sailing vessels. Hostile fast cruisers in the neighbourhood of Cape Horn would be likely to do much damage to that supply. Some people seem to imagine that the fast cruisers of foreign Powers would soon run out of coal when at sea, but the "Alabama" obtained her coal from her prizes, and I rather fancy our enemies would obtain their coal as she did from prizes, especially when we consider the great increase that has taken place in the number of ocean steamers since the days of the "Alabama." Reference has been made in the paper to the Yerburgh Committee. This committee, I consider, was a great mistake, as it was not formed to inquire into the whole question, but largely to endeavour to arrive at some plan of storing wheat in granaries that would meet with the support of our agriculturists. Such a scheme is not possible, because our wheat keeps best in the rick. No practical man would keep English wheat in a granary. There are several points in connection with the proposal of national granaries which upset the scheme, and prove that were such granaries established they would be a delusion, as they would not secure us from famine and surrender. National granaries would naturally be filled chiefly with dry foreign wheat. Thus should the war last some time, the contents of the granaries having been eaten, and our home producers neglected, we should be in as bad a position as if there had been no reserve of wheat. National granaries would simply prolong the agony, and would not secure us from famine and surrender, as no arrangements could be made to automatically replace the reserve during times of peril. The right, the proper, and the natural manner, and I contend the only way for us to obtain a secure reserve of food, is to encourage an increased production of food at home, and then at all times automatically the reserves of food will be replaced. We have many acres of derelict land which should be under the plough, producing food and giving employment to our people. To place this Kingdom in the secure position of being able to feed itself and to raise many men of fine physique and sound constitution, to defend us in time of need, we require British agriculture to be again placed in a prosperous condition. This, I believe, can be done without any increase in the price of food by encouraging the four-course rotation—wheat, roots, barley, and clover. First, we require a bounty on home-grown wheat. That could not increase the price of bread. Then we require to increase our supply of meat. Roots and clover are converted into meat. At the present moment we are not raising so much meat as we used to. Importing the equivalent in wheat instead of flour would cause us to raise more meat, as we should obtain the wheat offals we now leave abroad. The price of wheat offals round Chicago is less than half that charged in this country. Americans, having such a large amount of wheat offals obtained by milling flour for us, are able to raise meat at a cheaper rate than we do. Butchers selling imported meat as British should be heavily fined. Now barley: in order to make the four-course rotation paying, besides the suggestions mentioned, I should like to see the present beer duty repealed, and revenue raised from beer by a malt tax; then we should not give the foreigners an advantage. A bushel of British barley malt is heavier and produces more beer than a bushel of foreign. Thus British barley malt pays more beer duty per bushel than foreign. I should very much like to see a better supply of food and men in the United Kingdom. If we increase the supply of home-grown food it would, of course, mean increasing the supply of fine men in this country,

besides increasing our wealth by not buying so much food abroad. The matter should receive more attention than it does at the present moment.

T. MILLER MAGUIRE, Esq., LL.D. (Inns of Court V.R. Corps):—I certainly do not like to refuse to speak after being asked, but I do not know why it was that my friend Captain Murray suggested I should do so in this case. I have absolutely no expert knowledge from the point of view of agriculture, corn, or beer. But I may, perhaps, be able to supplement the remarks of my friend from the historical and political points of view. My attention was first called to this question of how far the food supply affected the country, or how far the content of the people with their food supply was affected by very remote causes, by my experience in Italy. I was there in the summer of 1898, when the Italian soldiers were shooting the Italian people, and the populace of Milan was rioting; not because there was any loss of battles or of prestige on the part of Italy itself, or any very serious disaster in the Mediterranean; no Genseric, no Barbarossa hampered its commerce; no enemy was cutting off the food supply of Rome by blockading its ports. Why then was so discreditable a state of things prevalent in Italy? Simply because popular irritation at a deficiency in the bread supply, resulting, not from anything in the Mediterranean, but as the result of a war between America and Spain in the further Atlantic. It appeared to me that was a very serious matter. Here we had a people fighting for bread, because there was a rise in its price, due to such a distant cause. Then I came home and I found that we were paying about 2d. more for bread per loaf than we had paid, not because of any defeat of our own fleet, but because of this war between America and Spain. I ascertained that the loss amounted to about 30 or 40 millions a year, at 1s. 2d. per head per day. Thus the British people were taxed some 20 millions a year simply because there was a chance of some interruption in the food supply caused by war between two foreign nations, a war with which we had nothing whatever to do. I seriously reflected on what might possibly take place if we were at war with America itself. What a serious panic would develop! And then I began to consider how many of our people were always on the brink of distress, indeed hunger, in any case, and the effect that would be produced on them by a sudden rise of 50 per cent. in the price of their food. Simultaneously with these reflections there came out a book by Mr. Bloch, a book with which no doubt, Sir, you are very familiar, setting forth exactly the moral, commercial, and industrial effects of the possibility of a war[1] with a European Power or the United States, and still worse of its actuality. What does Mr. Bloch say on this matter? He says that the modern European feels more keenly and is much more excitable and impressionable than his forefathers, and upon this highly excitable, sensitive population you are going to inflict the miseries of hunger and the horrors of war. I assume that, if we went to war, without that disaster to the Navy to which Sir John Colomb referred, but with the possibility of a disaster to the Navy, coupled with the fact that there might be an outbreak of privateering, you would have some of the horrors of war inflicted upon this sensitive population, and therefore it seemed to me desirable that the Government should betimes take every possible precaution to prevent even the contingency of these horrors arising. I think that the main point of the admirable address of my friend Captain Murray is not merely to take precautions against that overwhelming naval disaster which would entirely ruin us, but to take precautions so that not even a panic should arise, to take precautions so that not even a rise of 30 per cent. in the price of food should cause widespread suffering, and a rise of 70 per cent. should cause widespread dismay and confusion. Mr. Bloch goes on to say at the same time that war would enormously increase the taxation. Suppose we had a naval war, of course our taxation would be increased, and even supposing we won, the price of our food would be increased. Whether we won or lost, disastrous consequences would follow upon a cessation for a short period of ample food supply. Insurances would go up enormously, and these would cause increase in prices. How long do you think your

[1] I don't pin my faith to Mr. Bloch's treatises, but their *data* are very complete and instructive.—T. M. M.

social fabric would remain stable under such conditions? How long would the populace of London, or Glasgow, or any of the great manufacturing districts, stand doubling of the price of food accompanied by great taxation and diminished wages? I do not know whether I am right in assuming that what our friend proposed to guard against was high prices resulting from a slight defeat, a possible defeat, or a panic, rather than high prices resulting from a disaster to the Navy? If Captain Murray would answer that it would guide me in what I propose to say.

Captain MURRAY:—That is quite right.

Dr. MILLER MAGUIRE:—Captain Murray talks about the waste of food amongst the rich in this country. I never had the pleasure of being rich, so I cannot tell you from experience what rich men do; but I have been poor enough all my life, and very poor in parts of it, and yet I have observed a very considerable amount of waste in my own family and amongst my neighbours; I believe that if I myself devoured as much food daily as my servants do, I should burst. There is a most enormous, disastrous, and continuous waste of food amongst middle-class people and the semi-poor class of this country. That waste goes on still worse, in proportion to their means, amongst those who are almost poverty-stricken. The people dwelling off Leman Street, in the East End, in the Parish of St. George's, are poor enough in all conscience, so are the appalling specimens of humanity in degradation who people the slums of Dublin, Glasgow, and Edinburgh; these are the people described as being on the verge of ruin already, and yet they are the most wasteful people I have met in all my life. In evil hours I was at the East End during an election campaign in 1886, 1892, and 1895. What do you think we were pelted with? Not with stones, because the pavement was asphalt. Our humble political opponents pelted me with bread again and again, and that in the poorest districts in the East End of London. No such an incident could occur in Eastern Europe. Manifestly our town population do not know the meaning of thrift or self-control. The ordinary Englishman gets an amount of food, meat, eggs, butter, fish, milk, fruit, and beer, of which an ordinary Irishman in the same rank of life never dreams. What is rejected in our workhouses would be luxury to a Turkish soldier. Consequently, our people are the least of all adapted for putting up with such distress as I saw in Italy in consequence of the war between Spain and the United States. Then the author refers to the extraordinary fact that at least 60 per cent. of our population live in towns, and that our country folk are few in numbers compared with those of other States. I believe the urban population is more—I believe it is 70 per cent. This is a condition which renders the question of the food supply of our population a matter of the gravest importance to us. To come to another point in this most valuable address, France has had to face a combination of all Europe in this century and Prussia had to face a combination of three Powers in the last century. In 1797 we faced a combination of the three naval Powers of the period, that is to say, France, Holland, and Spain. But we beat them forthwith; Duncan, Jervis, and Nelson made short work of their armaments. But even if we had not beaten them in a year or two our country was at that time in the condition of a garrison well supplied, that is to say, we could live on the produce of our own islands for many years. Suppose we faced a combination now of two Powers and were beaten, we should be in the position of a garrison taken by surprise, because we could not live on the produce of our own island or on our food reserves for half a year. Another point the lecturer laid great stress upon is the necessity of preparation betimes, preparing for a war in the midst of peace, instead of re-organising an Army in the midst of war. Surely that is a very old lesson. It is the old Latin lesson, *Si vis pacem, para bellum.* It is the lesson of Lord Bacon, and it has been impressed upon us over and over again in recent years by the logic of events. I wonder our Cabinet is not always thinking about it. We had an extraordinary instance of how little confidence can be placed in our Cabinets at the recent meetings in this theatre. Member after member of Parliament has got up and said that he would not trust the Cabinet to do anything whatever, neither would he

trust Parliament. They would only trust to people like us, urging Parliament to do something—to pressure from outside. I am afraid since then we have had some strange experiences in the House of Lords and elsewhere of what little good the Cabinet or Parliament is at the present moment prepared to do for the country at large. We must have a fleet superior to any combination; we must be prepared with the Regular Army to go abroad and strike. As to obligatory military service at home, I say it would do everyone of us good to be obliged to join the Volunteers, and, moreover, I think that we ought to be able to hold out for a long period by having reserves of food, because we should then be like the garrison of a well-prepared, well-provisioned fortress. Surely it has been proved to us over and over again in the past generation that a Government that does not act betimes upon expert warnings, a Government that will drift into a war is not a Government worthy of the name. Foresight is the first thing a Government should have. Has our Government had foresight in recent times? If not, the sooner we get a Government that has foresight the better. We must insure ourselves against ruin either by adopting the means the gallant captain has suggested or by some other means. Take the Franco-German war—we need not go further back to see what a shame, what a catastrophe, it was for any Government to plunge an unprepared nation into war. Here was the first military nation going to war and ignominiously defeated in six months. It had more people and more wealth than its opponent, and yet it was ignominiously defeated. Its towns were bombarded and taken and Paris was forced to surrender to starvation. If there had been six months' more food in Paris what would have been the situation of the Germans around Paris? There was 600 millions of pounds sterling lost and a capital starved out all because the French were not as ready as the Germans. Now to go to the Far East for a warning. Suppose that China had been ready to meet the European Powers. Supposing that China had between 1870 and 1895 done what Japan did, prepared for war, sent its people to study war in every direction, considered that the best of warlike efficiency was the first duty of all official life, reflected that the two main pillars of the State were the Navy and the Army, everything else being small by comparison would the European Powers now be laughing at the Mandarins? The Mandarins would be laughing at them with all their soul Well, if they can even smile now, they would have been in gaffaws and Europe in tears if they had done what I have just said. Here is what Lord Bacon said: "Let no nation expect to be great that doth not make the study of arms its principal aim, glory, and occupation." We have neglected these arms and we have been disgraced accordingly. The present war is no disgrace to our Army, but it is a lasting disgrace to our Cabinets. We have not been up to our Imperial requirements. In conclusion, I think we owe great thanks to gentlemen like Captain Murray, and a great deal more thanks to them than to the Cabinet Ministers and to Members of Parliament, who, according to their champions in this hall, have forgotten the maxim, *Gouverner c'est prévoir*, and have never troubled their heads about the efficiency of our armaments and other means of safety till we were nearly ruined.

Lieut.-General Lord WILLIAM SEYMOUR:—Perhaps, as I have not been present during much of this discussion, the point I am going to mention may have already been before the meeting. If so, I hope the gallant Admiral of the Fleet will promptly —as he used to do in days gone by—order me not to go aloft, but to sit down. The lecturer says that the first combination to consider as the most dangerous in war is a war with the United States and Russia combined. He goes on to quote a letter from Captain Mahan, which, I am quite sure, is in agr ement with what every Englishman would say, that, terrible as the fact was, he could not hide from himself the conviction of its possibility. Captain Murray goes on to say that our total imports of wheat are 22,500,000 quarters of which 14,500,000 comes from America, 5,000,000 from Russia and Roumania, and 3,000,000 from the British Empire. In the event of the war as suggested, that would leave 20,000,000 to come from somewhere else. I imagine that by America he means the United States?

Captain MURRAY:—The United States and the Argentine.

Lord SEYMOUR :—But not including Canada ?

Captain MURRAY :—Not including Canada.

Lord SEYMOUR :—That would leave 20,000,000 to come from our own Empire, and we must look to the fact that our great Dominion of Canada would be ready to supply the largest quantity of wheat to this country, if sufficient and safe transport was given for this corn from the north-west territories into British bottoms in the St. Lawrence and Halifax. Two years ago I was travelling from the Pacific, through the north-west territory, to Lake Superior and back to Canada. For 700 or 800 miles the whole of the corn transport is on a single line from Fort William eastward, entirely unprotected against raids from the United States, and I do not think this discussion would be complete unless this lecture impressed upon the authorities in England and in Canada how very necessary it is that our great Dominion should co-operate in providing a safe means of transport from the North-West through British territory to the ports of the St. Lawrence in summer, and to Halifax in the winter, whence our own cruisers would be able to afford convoy to the shores of Great Britain and Ireland.

Major A. D. SETON (Forfar and Kincardine Artillery Militia) :—It seems to me with regard to this paper that the great point of the whole question is not so much whether we are disposed to agree with the scheme that the lecturer propounds as a remedy for our complaint, but that he draws attention, and I hope he will draw a great deal more attention, to the situation that we are in. This question of our food supply is one that has appealed very much to me as a land-owner, and as one interested in naval matters as well, and I must say that after talking a great deal about it amongst my friends, the thing that strikes me most of all in connection with it is that nobody knows anything at all about it, and I am sorry to say that very few people indeed care anything about it. I am quite sure if people at large had the slightest idea of how we are situated, and likely to be situated in the event of a war—I do not say a naval defeat, but just in the event of a war—there would be a very strong pressure brought to bear to have this subject investigated. The propounding of any particular scheme, or the saying that Captain Murray's scheme is better than Mr. Yerburgh's, for example, is not the point at the moment. It is that we want people to look into the matter, to consider it, and to take an interest in it. Until we do that it is perfectly hopeless to attempt to get anything done. I was talking yesterday to a certain Peer on the subject, a man who has the courage of his convictions, who has travelled a good deal, and who has thought a great deal ; I wanted him to come here and say something about it, and he has come, but unfortunately he has had to go away without saying anything. He said to me : "I quite agree with what you say, but I have no influence. You must get the people at the top to take it up." I do not know what your experience is, but as far as I have seen if you leave it to the people at the top to take a matter up it never is taken up. I think we have only to go back to the Naval Defence Act to see that. We all remember when Lord George Hamilton came to the House and said that if he had £10,000,000 or £20,000,000 to-morrow given to him for the Navy he would not know what to do with it. And yet about a week afterwards he asked for £20,000,000 for the Naval Defence Act ! That asking for £20,000,000 for the Naval Defence Act was brought about, not by people at the top, but by the agitation of a newspaper, the *Pall Mall Gazette*, and the result was that we have got the fleet we have at the present time. In this matter of food it is the same thing over again. To have the matter looked into, considered, and put on a proper footing, we must get some pressure brought from below. I do not say in the form of agitation, or anything of that sort, but we must have it looked into, considered, talked over, and if all is right I should be the very first person to rejoice that nothing need be done. But, unfortunately, when we come to look into these things I do not think that any man can say matters are in a right and proper condition. I should like to endorse what Dr. Miller Maguire said about the effect of a war, the war between America and Spain. He mentioned that when he came back here from abroad he found everybody was paying a great deal more for corn and bread than they were

when he went away, in consequence of this very twopenny-halfpenny sort of war, as war goes. It was not a really big war. Poor Spain could hardly stand up to the United States at all. Yet that was the effect upon this country. I have had for so long my own opinion of what the effect of a war would be on our food supply, that when that war broke out I felt that I was bound, as it were, to back my opinion. I communicated with a friend of mine, who gave me an introduction to a large firm of corn merchants in Liverpool, and I went in for a small speculation in wheat. If I had gone into the matter before I should have made a little more money than I did, but when I did go into it I came out satisfactorily. Why? When that war broke out, as you know probably, Spain never raised a finger to interfere with any American ship, never attempted it in any way, never sent a torpedo-boat or a tug-boat out. But in the early days of the war there was one large American sailing ship, the "Shenandoah," with, I think, 30,000 centals of wheat consigned to Liverpool. She was on her way from San Francisco, and was somewhere off Cape Clear soon after war was declared. There was a Spanish torpedo-boat damaged by a collision or gale, which had put into Haulbowline to be repaired, where she was repaired by our people. Well, the "Shenandoah" was something like two days overdue in Liverpool, which everyone knows is nothing for a sailing ship. The rumour was started in Liverpool that she had been picked up by this torpedo-boat, which was well known was comfortably in dock at Haulbowline unable to move. What was the result? In one afternoon the price of corn in Liverpool jumped up nearly 50 per cent.! I cleared out on the strength of it! They say that an ounce of practice is worth a pound of theory, and that is my ounce of practice. If that happened in the case of a war which really did not affect this country in the very slightest, I want to know what is going to happen if half-a-dozen of our corn ships do not turn up in Liverpool when they are expected. The rates of insurance and prices would be simply prohibitive. In a very short time we should have to deal with the East End of London. Within 5 miles of us at this moment there are about a quarter of a million of people who are never in the best of times more than 24 hours off starvation. Throw your minds back a few years when there was a snow-storm in Essex, which blocked the railways for a few days, and you will recall how half the population in the East End were on the verge of riot because of a trifling interruption in the market produce coming to Liverpool Street. What would happen if there was a really serious interruption? The great Duke of Wellington himself said he had never seen any place knocked about so badly as Birmingham was during the bread riots by its own people. All our friends who live in fine houses in the west of London should take the matter into consideration. We should certainly have trouble if there was a war. It is a question of keeping the price down. It is no use talking about starvation, but it is certain that something must be done to prevent the price rising. I do not care what the remedy is, but something must be done. If we are going to have the penny loaf up to a shilling we should have the most immense trouble with our own population, and that would prevent us dealing with the outside question of national defence.

Sir HERBERT H. MURRAY, K.C.B. (late Chairman of the Board of Customs):—With regard to the scheme put forward, Colonel Grattan seemed to think that the details were too large for any Public Department to effectively carry out. I think it is a mere question of detail, and that any Public Department properly organised could carry out the arrangements which Colonel Grattan seemed to think insuperable. I believe that a Public Department such as is proposed by the lecturer, with one or two efficient heads, would very soon lick into shape the scheme which has been proposed. The details would of course have to be carefully thought out. I think a good deal might even be done with the assistance of the knowledge that is now possessed, or will soon be possessed, by the Census Department. One of the first things that would have to be done would be a proper enumeration of the inhabitants within the district that each head had to deal with. The Census Department this very year will have full information as to the numbers, sex, and age of the inhabitants on a given night of every house in the Kingdom, and with that information they could form a most effectual basis for the preparation of the books which might be

required in the proposed Department. The other point I wish to refer to was one raised by a gentleman from the War Office, and that was the question of martial law. I quite agree that to carry out any scheme such as is proposed by the aid of martial law would be a great difficulty in this country. It might be done, because I hope the temper of the people would be such that, at a crisis such as is supposed, they would be willing to submit to martial law; but I do not think that is necessary. If a scheme such as is proposed is ever attempted, there is no question that it must be done by legal enactment, and in this country the law has been almost invariably submitted to quietly by the population.

Lieutenant C. BELLAIRS, R.N. :—I should like to add my testimony to the general chorus of approbation with which this lecture has been received, and with regard to the figures put before us, which I think will be of great use to members of the Institution in the future. At the same time, when I come to the conclusions of the lecturer, I have to differ from him altogether. In saying that, I would not give a fig for any lecture which did not produce differences of opinion, because then there would be no discussion at all. When we talk about these food supplies, we seem to forget altogether that we have to ensure supplies of every other kind. There is the iron trade. There are something like 250,000 men employed on foreign iron ores, and every one of those men would be thrown out of employment if supplies are interrupted. Then with regard to the coal mines, for every three tons of coal you take out of the mines you have to put in a ton of timber, every bit of which comes from abroad. Unless we can ensure all those supplies, as well as our food, we may as well chuck up the sponge. The whole argument comes back to what Sir John Colomb said concerning our naval supremacy, and we must maintain that naval supremacy at all hazards. Instead of organising Committees of Public Safety, or Committees of Food Supplies, I think a few thousand pounds put into the Naval Intelligence Department to get information for the naval authorities would be a great deal better spent. Another point raised by a speaker was with reference to Canada's wheat supply in a war with the United States. We have seen pretty well what would happen to any railway in the event of our being opposed to a nation capable of raising large forces of mounted men. The Canadian Pacific Railway runs right through the State of Maine, and very quickly that railway would be overrun. Canada would be overrun, and supplies would not come to us from that direction. It is best for this country to recognise that a war with the United States would be a most criminal war, and one we could hardly maintain. I think therefore the duties of politicians are to ensure the probabilities of success to our side, and a nation that goes to war without the probabilities of success being on their side, well, it is an utterly criminal proceeding. The French ought to have kept out of the Franco-German War, as Dr. Maguire said. It is the duty of statesmen to be well informed about these points, and when we are actually at war we have only got to consider the probabilities as to what is to happen. I think it is an utter mistake to go into all these possibilities about food supply and not to keep to the main point of war. If we go to war with a large fleet and a mobile army, the probabilities are that success will be on our side; and it is only a matter of organisation and of distribution of our battle-ships and cruisers to ensure that supplies shall come to this country. So far from there being famine, the food supply will go to the country which is best able to pay for it, and if there is a famine it will probably be in those poorer countries which cannot pay for their food supply. In the poorer countries, although not engaged in the war themselves, instead of the food going to them or remaining in them, it will go to the country best able to pay for it. Even the food it produces itself will go away from a poor country unless the country is under martial law. This country will get a very adequate supply of food so long as we have such fleets as can win us success in war. What we have to make sure of is that we have the probabilities of success on our side. When we talk about organising a committee for the food supply, I may ask, Have we taken the best measures to ensure our Navy being supreme in war? It was only in 1891 that the Treasury and Admiralty were haggling for nine months over a question of £900 for the Naval Intelligence Department. A departmental correspon-

dence went on between the two departments, and the result was that the Admiralty had to give in over the question, and the Intelligence Department is overworked. There are no proper statistics about trade and food supply, and the defence does not therefore properly provide for these things. Plainly, the first thing we have to do is to keep our attention fixed on the main issues, and to have such an Intelligence Department as will give us proper information of what is going to take place in war, and then to provide the Fleet and Army required to defend the Empire on that basis.

Mr. A. W. MACONOCHIE, M.P. (Aberdeenshire):—I regret the short notice that Captain Murray gave me did not enable me to prepare a sufficiently careful statement of the position, as far as I regard it, of the food of this country in times of war. My experience has been gained in preparing food for very large bodies of men, principally for troops, and I feel that in case of war, the rise in price, so far as food is concerned, would be so great, that any reasonable expenditure that might be necessary (you might call it an insurance to safeguard you against a sudden rise in all articles of food) would be well repaid in the saving in times of trouble. My impression is that in the question of a grand scheme for the defence of the country, I might say of the Empire, the subject of food would be one of very serious moment. If that is not provided for at the same time that you provide your other material, and, guns and men, you will be in the position of being starved out at a time when you might succeed in accomplishing your defence. In my experience of feeding large bodies of men, I find that a great deal can be done by carefully arranging beforehand, and systematising the method upon which you are going to work. I might explain by a simple experiment that I made some 12 months ago. At that time the Corporation which I have the honour to belong to, was called upon to provide the enormous quantity of 200,000 lbs. weight of food per day, equivalent to 150,000 tins. The difficulty in a case of that kind, as you could readily understand, was to get the work done, and I have found after considerable labour that it was possible to get the work done at a minimum cost by doing away entirely with skilled labour and the use of solder, either in making the tins or in closing them. So much so, that now we have no difficulty in supplying if necessary 200,000 tins per day without any trouble, and that is done by the use of machinery. Personally speaking, from my 30 years' experience, I am under the impression that the country that wishes to succeed in anything, whether it is commercial or whether it is a question of defence, is the country that will be able to get labour-saving machinery so as to employ as much as possible the unskilled labour of the country, instead of being dependent so much upon skilled labour. In regard to food, we have had, I believe, many projects, one being the question of national granaries. Now, it will strike the ordinary business man that to get granaries built at enormous cost, to get the grain into them, and then to get the grain out at certain periods when it is considered to have been kept there long enough, will cause a very heavy outlay. I believe myself that a more simple and efficacious method could be adopted. You might go to a number of very large importers and shipowners, and say to them : "What will you take to give us the call on so many hundred thousand tons of grain which you will always arrange to be in the ports of Great Britain ?" The cost would be small as compared with the cost of granaries. You would always have the stuff on the spot, and you would not have the loss, the wastage, and the expenditure of labour and the heavy capital outlay you would have in building granaries. I do not say that you will have to adopt any particular method. It is a question, I suppose, to be discussed and debated and carefully thought out, with the whole question of Imperial Defence ; but from that point of view it is well worthy of your consideration. So far as my experience goes, I feel that it is utterly useless placing arms in a man's hands, arranging for guns and everything else, if you are not able to feed him. Some years ago, I had some conversation with the authorities on the question of feeding the soldier, and I stated then what I feel now, that if you feed the soldier properly in a systematic way, with good sound food, meat and vegetables, you will save a great deal of money in preventing the wastage by sickness which you have had in the past. Take the percentage of officers that are taken ill, and the percentage of the men. I am not sure if I am right, but I have

been informed that the percentage of men taken ill during a campaign is much greater than the percentage of officers. Whether that will be borne out in this campaign, where sickness has been so rife through bad water, I do not know; but I do strongly hold the opinion that if you feed the soldier well, you will certainly get value for your money in everything; medical expense will be saved, and you will avoid the loss of his services when it is so sadly needed. As far as the question of Imperial Defence goes, I can only say that the whole thing hinges equally on the feeding of the population as well as the arming.

Lieut.-Colonel J. J. BYRON (Royal Australian Artillery):—I can only thank you for your great kindness in permitting me to address you this afternoon by promising to be as brief as possible. With everyone else who has heard the lecture, or who has been privileged to read it, I cannot refrain from expressing my own personal sense of thanks and gratitude for the very masterly array of figures, and for the wonderful industry which the lecturer has devoted to the collection of them. I hope this will be appreciated, not only by us who are present in this room, but by the larger audience whom it is hoped his figures will reach—I mean the public. Nothing is more important to the solution of this problem than that in the first place attention should be drawn to the facts, and an appetite for such information cultivated amongst the people. Perhaps I may be excused from expressing, on the other hand, my thorough disagreement with the principles which the lecturer puts forward to solve the problem. It would seem to me that he is very much in the position of a man who has built a dam to hold back a pressure of water, and has made elaborate preparations for repairing that dam when it begins to give way. I think that is unsound. I think with regard to this question it should be a matter of strengthening the dam beforehand, so that there is no chance of its giving way. I hold it is impossible to repair the Imperial damage which would result to us if we had lost command of the sea. You will naturally ask what is my suggestion for so strengthening our defensive machinery? I am sure there are many present whom fate or duty has led to visit many parts of the world, and when they reflect on the strange policy or want of policy which seems to actuate the powers that be on all Imperial questions, they must be exceedingly surprised. For instance, we go to enormous trouble apparently in our desire to preserve what we call free trade, in building up and strengthening what the lecturer himself has called our probable, or at any rate possible, enemies, and in doing that we entirely neglect to build up our own strength. Many instances will occur to the minds of gentlemen, particularly those connected with commerce, to illustrate what I mean. The people of England are quite satisfied, for instance, to eat bounty-fed sugar grown in Germany or elsewhere, and thus help to increase the strength of a possible enemy. In Australia we have now for some time reached in sugar production our own consumption, and we cannot afford to send it here, where it is wanted, on account of the long distance, and on account of the bounty with which other sugar is fed to compete on the English market. Sugar is a staple product, and used by all classes. I am not speaking from any sentimental point of view; I am trying to be as practical as possible. One may reasonably appeal to our upper classes to give some preference to productions grown in parts of the Empire, rather than to Continental productions. We are assured now that they are just as good, and if the fashion of them could once come into vogue, I have no doubt the public could be persuaded that they are as good. For instance, in the matter of wine. An infinitesimal portion of the wine consumed in this country is grown in British territory, or territory belonging to the Empire. There are many more instances which, if I had time, I might go into, in which a change might be brought about. I hold strongly that the greater assistance that can be given to the over-sea possessions of Great Britain, the stronger is the Empire, and it is idle to talk, if I may be excused for putting it in that way, of besieging England; it is not a matter of being at war with England, but a matter of being at war with the Empire. I fail to see how an Empire can be besieged. If our commerce is to be on a footing by which the greater portion of our food is grown as far as possible at home, or at all events in British territory, I think our position will be infinitely strengthened.

Commander W. C. CRUTCHLEY, Royal Naval Reserve (Secretary, Navy League): —I have read the paper with very great pleasure, and I see from it that the lecturer says one of his objects is to get as many people as possible to realise our true position. If this paper assists in the smallest degree in doing that, I think the time, labour, and trouble expended over it will be very well bestowed. It is an utter impossibility to get people to look facts in the face. I put this fact with the greatest deference before this company. If we are ever involved in a serious naval war, the food supply is bound to be in a very precarious situation, to say the least of it, and any plan that would assist in the distribution of the necessaries of life is well worthy the attention of this audience and of the public generally. The plan devised by the lecturer is not an expensive one; it is not like many of the schemes brought forward in this theatre. As far as I can gather, it is an expenditure of £15,000 yearly to organise a system of supplying food when we are battling, as we shall probably be, for our very existence. It would, in my opinion, be money very well spent; and after reading the paper, as I have done somewhat carefully, it occurred to me that the Post Office would be the proper department to really organise this thing.

Lieut.-Colonel A. T. WINTLE (late R.A.):—For many years past I have studied the question of food supply. In 1891 I read a paper on the dietary of troops, before the Hygienic Congress. I have myself followed the Brahminical system, namely, abstention from meat, etc. Count Rumford made experiments for five years in the early part of the last century, and he found that the cheapest, most savoury, and most nourishing diet that could be provided for a little over a penny a day was a soup composed of pearl barley, peas, potatoes, cuttings of fine wheaten bread, vinegar, salt, and water in certain proportions. I also came across what Dr. Carr, in 1847, wrote on "The necessity of brown bread for digestion, nourishment and sound health, and the injurious effects of white bread." He said: "Near the close of the last century, owing to a scarcity of provisions, 80,000 English soldiers were fed on meal bread, and such were its effects that the officers and physicians of the Army declared the soldiers were never so healthy and robust, and that disease of every kind had almost disappeared from among them." The lecturer has advocated brown bread, and I am certain whole-meal bread is good, because when you have the whole meal it throws greater work on the digestive powers, and that relieves the brain of a good deal of strain.

Mr. DONALD W. REID:—The lecturer has done a great service to the country in bringing this subject before the public:—

> "Ill fares the land, to hastening ills a prey,
> Where wealth accumulates, and men decay."

The food of the people of this country, which at first was almost purely animal, became in course of time chiefly vegetable in the densely populated corn-growing districts. This vegetable diet was, however, prescribed for them by poverty, and not by inclination. The rural districts are now depopulated, and it is a moot question whether the artisans and the unskilled labourers of our large towns would submit to being fed on a diet which was almost exclusively composed of bread-stuffs. Hence the difficulty in providing food for these people in time of war. The following comparative statement will show the position of the United Kingdom in regard to its agricultural resources in the years 1867 and 1896:—

Cultivated and Grazing land in the United Kingdom in 1867.		Cultivated and Grazing land in the United Kingdom in 1896.	
	Acres.		*Acres.*
Corn crops	11,431,940	Corn crops	8,862,608
Green crops	4,951,796	Green crops	4,429,264
Bare fallow	953,998	Bare fallow	450,946
Grass under rotation ...	5,679,433	Grass under rotation ...	5,960,499
Permanent pasture	22,156,541	Permanent pasture	27,973,688

The above is exclusive of heath or mountain land: and it shows that 3,313,900 acres have gone out of cultivation, notwithstanding the fact that the population of these islands has increased from 30,315,072 in 1867 to over 40,000,000 souls in 1896. To compensate the farmer for his loss in arable cultivation the number of cattle has increased. There are, however, 3,000,000 less sheep than there were in 1867; and as for the useful pig, its numbers remain practically stationary, as the following comparative statement will show:—

Number of Live Stock in the United Kingdom in 1867.		Number of Live Stock in the United Kingdom in 1896.	
Cattle	8,731,473	Cattle...	10,942,423
Sheep	33,817,951	Sheep	30,853,809
Pigs	4,221,100	Pigs	4,301,328

The average prices for British corn, in 1867, were: for wheat, 64s. per quarter; barley, 40s. per quarter; oats, 26s. per quarter. In 1896 the average prices per quarter of British corn were: for wheat, 26s.; barley, 22s.; and oats, 14s. These latter-mentioned prices would be ruinous to the farmer were vegetables the staple food of the masses. The only great purely vegetable-eating class has, however, sadly diminished; and the beef, mutton, and pork-eating sections of society have so increased that the farmer is now wise in turning his food-grains into meat and milk. Would it pay the British farmer to increase the numbers of his flocks and herds? This is a question which, I think, can easily be answered in the affirmative. And if the British public want to save themselves from starvation in time of war they ought to make it worth the farmer's while to feed his animals on wheat, barley, and peas, instead of on maize—so that the food-stuffs found in every farmer's granary would be available for human consumption when prices were verging on famine rates. Maize is, indeed, largely consumed as human food. But I condemn it, since in Europe the consumption of maize is generally attended with that dreadful disease known as pellagra.

Mr. B. T. HALL (Secretary, Working Men's Club and Institute Union):—I can offer no criticism on the main proposal of Captain Murray's paper, but I can say that I think the picture he draws of the situation to be faced in the event of a blockade one which errs on the side of moderation. I am a workman, am now secretary of a society which comprises over a quarter of a million workmen, and can say with confidence that the result of trebling the cost of necessaries would produce results so grave that the people would insist on the cause being removed at any cost. Here seems to me to lie the danger. The English workmen has, as a class, no reserve of purchase power. The few who have dread nothing so much as the depletion of that reserve. Given a state of semi-starvation consequent on a war, the people would cry out that the war should be stopped, even to the extinction of Britain as a dominant Power in the world. This would not be at once, of course. Men would muster to the defence of the country, moved by a patriotism which is largely blind and inherent, not informed and resolved. But, however just the war, or however necessary, you would find men who would see clearly only the side of our opponents. After the first month of starvation, workmen would heed these arguments, and resentment with their terrible lot would grow. The second month the feeling in favour of peace—peace at any price—would, under the fearful pressure of starvation, finally force the strongest Government to the acceptance of humiliating terms. Of this I am convinced. It is a grave contingency, which, apparently, could be averted only by some such scheme as Captain Murray proposes. I dismiss as impossible any suggestion of a duty on imported wheat.

Mr. JAMES (Naval Constructor of Vickers, Sons & Maxim, Ltd.):—The paragraph in which Captain Murray deals with food supplies is very sweeping. In the case of a state of war such as he apparently has in his mind, every condition would be so changed that it is difficult to say what would occur. To count up the number of building-slips and the

erecting-pits in engine shops that would be available throughout the country would only be to skim the surface of the question. Would the resources of the country in raw and semi-manufactured material suffice for the enormous demand he postulates? Would the skilled labour needed be forthcoming? We can only surmise; we cannot determine. He imagines a state of hurry and haste everything is to be put aside for the work. But hurry and haste do not always mean expedition. One thing forgotten may keep a whole yard waiting. There are delays in transmission. Things go astray. Zeal even defeats its own ends. In building a ship or making an engine one can't get more than a certain number of men round the job, and it is very easy to overdo this. They just get in each other's way; and the quickest job has to stop for the slowest in the end. The public is much misled about the ability to do work with a rush. My own opinion is we might "get through" somehow, and get the ships built somewhere within a reasonable time. But they would be defective to a degree that would make them unfit to meet others built under more orthodox conditions. They would be full of makeshifts, there would be numberless deficiencies, untested appliances, and chances of breakdown at every turn. Defeat would necessarily follow a trial of strength against a well-equipped foe. It appears to me that under the conditions I have named, his statement comes within the range of possibility.

Mr. W. BRIDGES WEBB (Chairman of London Corn Trade Association):—As regards the question of a hostile country cornering American wheat, and so preventing any from reaching us, and thus starving us into submission, opinions on the Corn Exchange are divided as to what extent such an operation is feasible. Some men of large experience consider it is to be effected, others (I think, the majority) consider that it is only feasible to a certain extent. We know from our experience the great corner made by a private individual, Mr. Leiter, drove prices up 50 per cent. A broker with the credit of France and Russia behind him could drive prices up enormously, but whether the actual wheat would be obtained is doubtful; the American speculators who would sell the futures would not have the wheat, but would depend upon buying it from the actual holders. Directly it was known, and this country acting by cable, prices would be forced up, and the holders would withdraw their wheat from the market in anticipation of a further rise, and it would then become an affair of the biggest purse. Whoever gave the highest price would eventually get the wheat. But there is one point on which most corn merchants agree, and that is that the undoubted result of such a struggle would be to drive prices up enormously which would affect the poor of this country considerably.

Captain STEWART L. MURRAY, in reply, said:—I regret very much that a great number of people who said they would come and discuss this matter have not been able to come. Their opinions on this question would have been of great importance. For instance, several of the leading men in the corn trade said they would come, but they have been detained by business this afternoon and have not been able to arrive; and other people who I had hoped would come have not been able to do so. We are rather unfortunate in that matter. I will try and deal as shortly as I can with the few remarks that have been made. First, Major Altham said that my scheme was built on the probability of a naval disaster. I wish to object to that. It is not built on the probability of a naval disaster, but on the *possibility* of a naval disaster. We all hope and believe that our Navy will be always victorious, but it is impossible to guarantee that such a thing will always happen. Nothing in war can be guaranteed with mathematical certainty, and it behoves everyone who takes an interest in Imperial defence to look at the other side—the possibility of a naval disaster. It can be called nothing but optimism to talk as if we could never be defeated. I don't think Major Altham could have meant that, only some people seem to think so. It is impossible to say what will happen, and all I wished to say in this paper was, that we ought to make some slight preparations in case that which we all hope will never happen, should happen. That is all I wish to say about the paper being based on the possibility of a naval disaster. No one can have a higher opinion of the Navy than I have, or feel more strongly the necessity of adding to its strength, but I say let us also be prepared in case the fortune

of war should go against us. A lot of people will say: "What is the good of bothering about that kind of thing, because if the Fleet is once defeated it is all up with us?" I do not think that that is at all the right way to look at the matter. If we are unfortunately defeated, is it to be supposed for a moment that this great nation of ours is going to submit? That is not the spirit in which our nation has made the Empire, or in which we fought the old wars in old days. That is not the way we fought and beat the Dutch, or fought and beat the French. We did not talk then about giving in if anything went against us. We fought with the firm intention of winning in the end, whatever happened to us in the beginning. That is the way we must look at it now. When people say that, if our Fleet is defeated, everything is up and we must submit, I say that if that is so, it can only be because we are degenerate, and no longer worthy of ruling the destinies of a great Empire. If our Fleet is defeated, we must fight the battle to the bitter end, whatever happens, and it is for that reason I wish to make some slight preparations. Major Altham, in referring to the corn and wheat questions, missed what I consider to be the chief point in the matter, which is this: I have talked for a long time to corn merchants, and have been often to the Corn Exchange, and I believe I know pretty well what they think. Everyone admits that whether France and Russia could get the wheat is an extremely doubtful point—some say they might, and others say they might not—but they are all agreed, and Mr. Snow, the well-known Chicago crop expert, told us the same, that whoever got the wheat, the inevitable result would be that prices would be sent up sky-high in the competition for futures. That is the point we have to consider, that any nation or combination of nations by simply starting or making an attempt to corner wheat could drive prices up beyond the purchasing power of our poor: that is to say, any nation or combination of nations could drive the prices up to starvation prices. Every corn merchant I have spoken to is agreed upon that. The corn merchants say they would drive them up themselves, as it would be to their interests to do so, in order to make the greatest profit, and the net result would be that up they would go sky-high, and our poor could not buy the bread. That is the point I wish to make about the corn trade. The result of my enquiries has been to show that prices will be bound to go up to a hundred shillings a quarter at the very least. I put it at that price because I wish to be moderate. A good many corn merchants said I put it too low, but I thought it better to be on the safe side. I was also asked about the figures, which I am told differ very largely from the figures given by some corn merchants before Mr. Yerburgh's Committee. I wish to point out something about that. In my enquiries, which I have conducted now for eight months, I have found that everyone knows their own business, but they do not know the whole question of our food supply. If you ask a man about wheat he can tell you what concerns himself. One man knows the stocks at the ports; another knows about barley; and another knows about oats. But the man who knows about the stocks in the ports does not know the stocks which the millers or the bakers have. There are only a few men who know the combined statistics of the corn merchants, of the millers, and bakers, and one of them is Mr. George Broomhall, the editor of the "Corn Trade Year Book," who spoke in the discussion and supported the figures given. Mr. Broomhall's figures in the "Corn Trade Year Book" are the figures the corn trade merchants accept as correct. It is his life business to know all these corn trade and milling statistics. I do not think that you will find any corn merchant who will put his opinion against Mr. Broomhall's as regards corn trade statistics. Mr. Pittar, lately head of the Statistical Department of the Customs, and now a member of the Board of Customs, kindly assisted me as regards the tables of imports, so I do not think that anyone will question their accuracy either. I was also asked whether I proposed to use martial law. Of course I do not. Nobody thinks of using martial law in this country if he can possibly help it. Naturally it would be by Act of Parliament that the prices of bread would be fixed under those circumstances. We could not possibly allow people to starve, and Parliament would have to do everything necessary. Martial law, I presume, would be only used in cases where there was riot. If things got very disturbed indeed we might possibly use

martial law then. As regards the rations being small, I should like to say that a doctor in Aberdeenshire, whom I consulted, thought they were ample to keep men going. I do not for a moment consider it necessary that meat should be served out more than once a week. It is a luxury, but to call it a necessity is going rather too far. Everybody knows a large number of people never have meat more than once a week. Anyone has only to go to Aberdeenshire and look at the farm hands there, to see what sturdy kind of men they are, men who never get meat more than once a week or once a fortnight. The rations I propose—a pound of bread, a pound of potatoes, half a pound of oatmeal or barley daily, and half a pound of meat once a week—are enough to keep people going. It is not luxury, but it is enough to prevent people starving, and keep them quiet, and prevent them from breaking windows and howling for peace at any price. That is all we want to do. We do not pretend to keep them at full strength, but just to keep them from starvation. The expense of a free ration is so great, that we could not afford to give them a larger ration free. Those who have any work, or those who have any money, can buy extra foods for themselves. The troops and the sailors, of course, would be given their usual ration, as it would be necessary to keep them thoroughly fit for hard work. Something has been said objecting to the bran being put into the bread. Personally I think that daintiness would be out of place in time of famine, but for those who think otherwise I have given three sorts of bread to choose from, showing how many days' supply of each on siege ration scale could be got out of each million quarters of wheat. The choice would be a question for the Food Supply Department. Therefore I have not gone into anything else except what is sufficient, if the worst comes to the worst, just to keep the people from starvation and untold misery, to keep them from riot and raising a cry of peace at any price. That is the crux of the whole matter. We have to prepare to keep the people quiet, so that, if we find ourselves in a bad position as regards our food supply, in a war, they shall not parade the streets and raise a tremendous outcry which will force our politicians to conclude a disastrous peace merely in order to keep the mobs quiet. That, I consider, is a point which the Navy is very much interested in. I was talking to a very distinguished admiral the other day, and he told me that the dangerous time for the nation as regards its food supply would be the first few months of the war, before the Navy has been able to obtain absolute command of the sea, because during that period they would require every ship to defeat the enemy, and drive them into their ports, and during that time they would not be able to spare many ships to look after the food supply, and it would be a great relief to the Navy to know that the food supply of the country was all right for that period. I propose in the event of an emergency that we landsmen shall be able to look after the food supply, and leave the Navy free. Anyone who knows anything about strategy knows that the first great aim is to beat the enemy's main forces, and until that is done everything else must be thrown aside. There can be no doubt that that is the principle on which our naval strategy will be based, and that during the first few months of the war everything else will go overboard. The natural result will be that if bread is too dear for the poor to buy the mobs would parade the streets; and although our admirals were defeating the enemy, the mobs at home would force the politicians to make peace. The Navy therefore is tremendously interested in keeping these mobs quiet, because no admiral can be certain that the day after he had won a great victory at sea he would not hear that the mob at home had forced the politicians to make peace. Colonel Grattan raised a large number of difficulties, which of course are difficulties. Nobody denies there are difficulties in the scheme. I do not for a moment suppose there are no difficulties. But everybody knows also that every difficulty can be overcome, and is meant to be overcome. I do not see a single difficulty which arises which could not be overcome by a little organisation, a little preparation, and a little trouble. I do not see one that I would not guarantee to overcome myself, and there are plenty of better men than myself to do it. All these difficulties are simply difficulties raised to be settled. I ask, Are we going to be deterred by such slight difficulties as those? Whenever you raise any question you are always met by men

who raise slight difficulties, and they think those difficulties are sufficient to stop you. That is not the way any nation should consider a national question. A great nation such as ours should look at every subject in this light, that if a difficulty arises we will overcome it. It is absurd to say we cannot. We have ability in this country, we have endless ability, skill, money, plenty of organising power, and you have only to state a single difficulty and we can overcome it with the greatest ease in the world, if we set our minds to it. Therefore I cannot see that the difficulties mentioned affect the subject at all. Then he says the question is one of money. Of course it is, but we all know it is no good asking for money, and the only preparation that has the least chance of being made is that which costs no money at all. That is why I have been trying to work out a scheme which would cost nothing, because I am firmly persuaded that you have not the least chance of getting anything done if you ask the Government for money. Therefore, I tried to prepare a scheme which would meet the case without expense during peace. I do not say for a moment that a better could perhaps not be devised in time, but I do not think you can get a much cheaper one, and we want one devised now at once. It is so cheap and would cost so little that we might possibly get it done, and it would meet the case, not well perhaps, but just meet the case, while it would keep the people from starvation and the mobs quiet. Now with regard to what Sir John Colomb said. Sir John Colomb accused me of not having considered the question from a sufficiently broad standpoint, and of not having gone sufficiently deeply into it. Considering the amount of time and trouble I have devoted to this matter, that was a somewhat unexpected accusation. I assert that I have considered the matter deeply, and from all points of view, and perhaps more deeply than he has done, for his speech showed that there are several points he does not appear to have considered. Also if he had read the paper more carefully he would have found the answer to several of his questions. For instance, he asked me the authorities for my figures; they are given in the paper. He asked me who I expected to raise the siege of these islands. In the paper it is stated that I look to the eventual victory of our Navy to relieve us by regaining command of the sea. I only propose to give the Navy time. He also appeared to think that I am proposing a system of State granaries, but in the paper I do not propose any such thing. I propose quite a different thing. Sir John Colomb brought into great relief the question of the Navy, and he said that it was absurd to think of anything except having an absolutely over-powering Navy which would always be victorious. Of course that goes without saying. Everybody wishes our Navy to be always victorious, and to be stronger than that of any combination of Powers. But what I want to point out is, that nobody can guarantee the absolute certainty of victory. I want to say that again and again, because you are always met by this cry on the part of certain sailors—I do not say for one moment by the chief sailors, because every great admiral who will have the responsibility of commanding a fleet at sea knows that there are other things besides ships. I am perfectly certain that no admiral would wish to have the responsibility for the food supply entirely on his shoulders, and the responsibility of guarding us from invasion entirely on his shoulders, as well as the responsibility for carrying out the naval strategy. He would wish to be as free as possible to carry out his strategy, without perpetually thinking of the food supply. We know what public opinion did in the American-Spanish War, how it interfered with the naval strategy there. From that we can guess what public opinion would be in this country as things are at present—what howls there would be from the great towns for coast-defence squadrons, for squadrons to protect our food supply, etc., etc., and we know how these outcries would affect the politicians, and how in consequence they would interfere with the naval strategy. We have already had an object-lesson in this matter in the American-Spanish War, but there are some people who appear incapable of learning by the experience of others. This is perhaps the most important lesson of the war for us, if we would have our naval strategy free. There can be no admiral who would not be glad to have the question of defence from invasion and the question of food supply more or less off his hands for the time being, and be certain that there would not be these howls

of alarmed public opinion to interfere with him. But there are certain sailors whose ideas were voiced by Mr. Bellairs, who cannot think of anything but ships. They oppose every single thing except ships. You cannot ask for a little sum like £15,000, so small a sum as to be quite useless to the Navy, without some sailor must get up—not a great sailor, for I wish to draw a strong distinction, the very strongest possible distinction, between the responsible admirals, the responsible naval party, and the small irresponsible extreme naval party—without some extremist getting up and objecting to every single thing except his cry of "more ships." It is impossible almost to bring forward any proposal without somebody getting up and saying, "Spend the money on ships." It is only £15,000 I ask, and Lieutenant Bellairs wants that little £15,000 for ships. How many ships would he build with £15,000? That kind of thing does harm, for it stands in the way of a proper unity between the various components of a thorough scheme of Imperial Defence. I am sure that extreme opinions of that sort are not held by the responsible men at the Admiralty. Mr. Pittar very kindly substantiated the figures as regards imports in the same way that Mr. Broomhall did the corn trade figures. Another thing I wish to point out with regard to national granaries, and that is, that I have not gone in for them in any way whatever, and have only mentioned them in my paper as one of the proposed remedies. I thought that the matters brought forward by Dr. Maguire were very good indeed, and strengthened what I said very much, as also did the facts stated by Major Seton. What Lord William Seymour said is very important, for Mr. Snow told us that in 25 years' time America would cease to export wheat, because her own population would be growing so much that by that time she would require the greater part of her own production. That may, or may not, be the case entirely, but it will be the case to a much greater extent than at present, and we shall have to depend much more on Canada than we do now. I also wish to draw attention to the fact that Sir Herbert Murray, who has had such a long and varied experience of public departments said that the small department, which I propose, could easily be worked in peace-time by a capable man. I do not think I need refer to what Lieutenant Bellairs said again, except that I think it is rather absurd to oppose everything except ships on every possible occasion. I am glad to say it is only a very small party who do that. He also said that war with the United States was too dangerous to think of. But we *must* think of it, for we *must* consider every possibility of war and prepare for it. Mr. Bellairs would apparently say that because disaster would be very dangerous, and because the Government could not force the Americans to sell us wheat, therefore we must not even think of a war with the United States. His argument would lead one to believe that if the United States choose to threaten us to-morrow we should have to knock under! If that is Mr. Bellairs' idea I do not think he will find many people to agree with him. I should like to point out that none of the figures on which this paper is based have been upset by any criticism brought to bear on them. From those figures I say there are only two certain conclusions which can be drawn, and as long as those figures remain firm those conclusions must be faced. One of them is that we are in a most dangerous position now. It is impossible to speak sufficiently strongly about the dangerous position we are in, and our position continues to grow worse instead of better, because the stocks in the country are decreasing and not increasing. I think our position is so dangerous that to me it is absolutely inconceivable how those responsible for the defence of the nation can sleep in their beds at night—how they can possibly exist when they have such facts staring them in the face and do *nothing* to put them right. Something requires to be done, and to be done at once. In conclusion, I wish to refer to that spirit of negligent optimism which has, owing to too long a period of peaceful prosperity, become the curse of our nation, and of which I have discerned traces in some of the speeches at this discussion. It stands in the way of everything. One meets it everywhere. Because things have gone well with us in the past, people seem to think that they can never go otherwise than well, without any exertion on our part. Any suggested preparation to meet a possible danger is met by an optimistic statement that that danger won't ever arise. And by such a statement people think that they

have disposed of the question. For instance, a man will say, "I don't believe that our Navy can ever be defeated," or "I don't believe that the United States will ever allow food to be declared contraband of war." Perhaps not: but who can foretell the future? To any man who makes such a statement I answer, "Perhaps you may turn out to be right, and perhaps you may turn out to be wrong. Are you prepared to stake your head on the correctness of your opinion? If not, why are you prepared to stake the existence of the Empire? And why do you try to obstruct those who wish to prepare for either eventuality?" There is only one policy worthy of a great nation which intends to remain great, and that is, a policy of certainty. Let us prepare a certain defence against the worst which *may* happen, such as the possible defeat of our Fleet followed by invasion or starvation. If the worst does not happen, so much the better. If it does happen, then it will not find us unprepared to face it. "Prepared for either fortune, good or bad," should be our motto: and not "Prepared for good fortune only." Let us remember that, as Napoleon said, "In war it is always the unexpected that happens." And in preparing for the possibilities of future warfare let us not forget "Die Sache der Armen."

The CHAIRMAN (Admiral of the Fleet Sir John Edmund Commerell):—I feel very strongly on this subject. The difficulties which we have before us, not only with regard to the food supply, but also with regard to raw material for our manufacturers, raise a question that ought not to be put on one side. It is all very well to say, and I am sorry to state there has been a school for some years saying, "Make your Navy as strong as possible, and you want to do nothing else." They have cried for a long time that England never could be invaded as long as we had a very strong and adequate Navy, and now they turn round and tell you that you can send any amount of corn you like to England for the supply of her starving population if you have large enough force to convoy it. But there are two questions to be discussed on that point. First of all, where, at the present time, is your food coming from? There might be an embargo upon corn in the future as there was in the days of the great French war. The question which the lecturer has very properly raised of what our enemies would attempt to do by options in wheat Napoleon tried to do by edicts. He failed signally, simply and solely because the circumstances were entirely different from what they are now. There is one point I should like to speak about very strongly. I think we are a little bit too sensitive to the like or dislike of our foreign neighbours. There is no doubt in the world that what exists now has always existed. The strongest boy, the boy who is richest, is always the one that is disliked, and at the same time that dislike is accentuated by the Press of the present day. Every little word, every tittle-tattle, everything said by any man who calls himself a statesman, is instantly passed about from paper to paper, and does not tend to make things more pleasant than they are. I will tell you of a thing that occurred to me in America. There was a member of the Senate, Mr. Chandler, of Michigan, whose abuse of England was of the coarsest possible description. Each session he started the same motion, which meant fire and sword for England. To my surprise when I went over to America and dined at the Embassy, whom should I see there but friend Chandler. I said, "Good heavens! have you got Mr. Chandler here?" "Lord bless you," they said, "he is the tamest man possible." He told me the other day when I spoke to him about it, "My dear sir, it is all talk. It does not hurt you, but it is a very good thing for my constituents, because they believe I am in earnest." I think there is a very great deal of that in the present day. I do not want to abuse the Press too much, but we see some of the most extraordinary things invented in that Press. We saw most graphically described in one of the daily papers, a paper that has got a tremendous circulation, the massacre of the poor creatures in the Legations at Pekin, but there was not a word of truth in it; and I have no hesitation in saying that very probably the publisher had a very shrewd suspicion that there was not any truth in it, and that he would have the advantage of being able to contradict it afterwards. As far as the Navy is concerned, I am perfectly certain that when the time comes we shall do our duty: but at the same time it is not given to a man to command success—he can

only deserve it. Still, you must be prepared for squalls. When you think that you have got, perhaps, to depend upon the brain of one man, an accident might capsize the whole thing. I remember a case in naval history, that splendid action of Rodney's off Dominica was entirely brought about by a French captain putting his helm the wrong way, in consequence of which the ship astern ran into him, and carried away his foremast. That was the cause of Jamaica not being attacked, and the combined squadrons of France and Spain being separated, and you may say that in the West Indies the whole naval war was settled. With regard to Lieutenant Bellairs, we will not be too hard upon him. He is young, and, perhaps, when he gets older he will learn a little better. He will understand in future that to be afraid of your enemy, and to speak of it as being criminal to go to war with him, whatever he may say or do, is not the way to strengthen the Empire. Our Empire was not built up on those lines, and it is certainly not going to be continued on them. I am the most peaceful man in existence, but at the same time I believe there is something worse than war, something worse than the most bloody war, and that is dishonour—dishonour which makes you afraid to look your children or your grandchildren in the face. He said, "Oh, all you have to do is to have a first-class Intelligence Department, and a first-rate Fleet; never mind your provisions, they will come all right." Supposing that we went to war with an army in the field, and were to say, "Never mind the provisions, they will come all right," I should like to know what would happen to that army, or to our army in South Africa, if we had started on that line. No. Our first duty is to look at things judicially, to see that we have done all that we possibly can for the defence of our country, to be prepared not to accept insult, to determine that we won't put up with it. You may depend upon it, ladies and gentlemen, that England, the glorious Empire that we have now, will continue in the future. I think, ladies and gentlemen, that we ought to give a hearty vote of thanks to our lecturer for bringing such an important subject before us in this theatre, and I beg to propose a vote of thanks to him for his lecture.

THE CAPTURE OF THE TAKU FORTS.

By Lieut. MYAKISHEV, Flag Gunnery Officer of the Pacific Squadron, Russian Imperial Navy.

Translated from the "Morskói Sbórnik," No. 2, February, 1901.

AT the fifth conference held on board the "Rossia," on the 3rd (16th) June, at nine o'clock in the morning, it was decided:—

1. That the command of the Allied Forces in the river, in case of hostilities, should, in accordance with the official report of the preceding conference, be entrusted to Captain Dobrovolsky, who was to assemble all the commanding officers of the gun-boats, and together with them draw up a plan of operations.

2. If, by two o'clock in the afternoon of the 4th (17th) June, no reply shall have been received from the commandant concerning the surrender of the forts, the gun-boats shall immediately proceed to carry out the decisions contained in the official report.

3. The duty of the gun-boats is to prepare the way with artillery fire for the storming of the forts by an attacking column specially detailed for this object.

4. In forming the attacking column, it is necessary to keep in view the necessity of leaving a garrison at the railway station for the protection of the various buildings there and of all removable property.

Forces Concentrated in the River by the Evening of the 15th June.—About three o'clock a company of the 12th Regiment, which had arrived in the "Admiral Korniloff," was disembarked. At the same time the Japanese completed the landing of their 3,000 men, and the "Hansa," "Hertha," and "Centurion" landed their detachments. By the evening there were assembled at Tongku our detachment (184 men), 329 Japanese, 250 British, and 140 Germans. The following war-ships were in the river:—"Bobr," "Koreets," "Giliak," "Lion," "Iltis," "Algerine," the Russian torpedo-boats Nos. 203 and 207, and English destroyers.

The Japanese gun-boat "Akaru" could not take part in the proposed action, as her engine was damaged; and the American steamer "Monocacy" stood off, in accordance with instructions received by the United States admiral to remain neutral so long as the Chinese evinced no hostile intentions against himself. The "Monocacy" and the "Akaru" anchored at Tongku, close to the railway station.

The Night of the 3rd (16th) and 4th (17th) June in Taku Roadstead.—With the approach of darkness the ships in the roadstead made preparations against torpedo attack. The stations of the ships on the 3rd (16th) June was as shown on Plate 6.

About one o'clock on the night of the 4th (17th) the first shots were fired.

On the commencement of the action the Japanese torpedo-boat destroyer, which had arrived on the previous evening, weighed anchor and began to steam in front of the bar to prevent the Chinese torpedo-boats attempting to dash out of the river, and also the closer to watch the cruiser "Hai Yung." At dawn, at 4 a.m., an explosion was observed on shore. At 5 a.m. the flags of the Allies were seen from the mast on the north-west fort. At 5.52 two more explosions were heard on shore, one after the other; one was very violent. At 6.25 a fourth explosion was heard; the shots became much fewer, and at 6.45 firing wholly ceased. At 7.20 the signal, "Forts captured," was made from the "Hansa." At the same time a similar signal was observed flying from torpedo-boat No. 207, as she steamed out of the river.

Disposition of Gun-boats in the River before the Attack on 3rd (16th) June.—On the 3rd (16th) June the vessels in the river were stationed as follows:—At the very mouth of the river, alongside Fort No. 4, was the "Algerine"; at Taku, in rear of the forts, was the "Koreets," and above her, about 2 to 2½ cable lengths, at the village of Taku, was the "Giliak." At Tongku, near the railway station, counting down the river, were the "Lion," "Monocacy," "Akaru," "Iltis," and "Bobr." On Plate 7 are shown the disposition of the ships on 3rd (16th) June, in the first period of the action and at the end of it.

The position of the "Koreets" and "Giliak" in rear of the forts requires explanation.

In view of the numerous instances of sympathy that had already occurred between the Regular troops and the Boxers, their intentional inactivity in suppressing the latter, and even their hostile actions against the Europeans, an armed resistance on the part of the forts was momentarily expected to the landing of Russian bluejackets and troops at Tongku. Besides defending the mouths of the river with mines, crowding troops into the forts, and hurriedly working on them, at each passage of the barges with the landing parties, the garrison of the forts manned the guns and pointed them at the barges.

Every moment it was expected that the forts would open fire. In view of this the gun-boat "Koreets" was stationed in rear of the forts, and on the arrival of the "Giliak" she, too, took up a similar position in the same bend of the river. Being so stationed, the gun-boats would be in the most advantageous position, the moment the forts opened fire on the landing parties, to take the greater number of guns in the forts in reverse, and thus draw off their fire from the barges carrying the troops, without in any way endangering the latter, as from their position the line of fire from the boats would pass considerably to one side of the fairway. By this fire, too, they would be able to support the attack on the forts by the land forces which were already in Tongku. In the reverse case, if the gun-boats had at this moment been stationed at Tongku, they would have been deprived of all possibility of firing on the forts, while to steam across to the above-mentioned spot up the river, would, at the

commencement of the ebb-tide, have been extremely difficult, and would have required a considerable amount of time.

It would be difficult to say what might have happened if the Chinese had made up their minds to fire on the landing parties, the greater part of which had reached the mouth of the river before the commencement of the ebb-tide, and if at this moment all the gun-boats had been at Tongku, or in any other part of the river between Tongku and that bend in the stream which had been selected for the disposition of the boats in case of war, the landing parties must have been annihilated, and the gun-boats, deprived of all possibility of replying to the fire of the forts, must have been either doomed to complete inactivity while subjected to a bombardment from the forts to which no reply was possible, or have weighed anchor and commenced to turn round in order to proceed up the river; but if in doing this one of the boats had received a hit below the water-line, or had her engines damaged, the remaining boats would have got hopelessly jammed up, and the Chinese, after having finished off the land forces, would have had no difficulty in destroying the lot. In no better position was the "Algerine," anchored as she was under the very muzzles of the guns in Fort No. 4. Without the slightest doubt she would have been one of the first to have been sunk. The "Bobr" was left at the station at Tongku to keep up communication on one side with Tientsin by means of the telephone, and on the other, with the squadron, by signals and torpedo-boats. Besides this the gun-boat supplied the troops that had already arrived with distilled water. Thus, had the Chinese acted with more energy and decision and the above measures had not been taken, we might have suffered a terrible catastrophe. The gun-boats and the detachments in the boats and barges would, in all probability, have been entirely destroyed; the landing parties in Tongku and Tientsin would have been finally and irretrievably cut off from the sea, and any attempt at capturing the forts from the front by the remaining vessels of the squadron, would, of course, have been out of the question.

Council of War.— Having received two copies of the Ultimatum and the instructions of the admiral, which had been despatched up the river at high water (about 3 o'clock in the afternoon of the 3rd (16th) June), the commanding officer of the "Bobr" immediately convened a council of war, composed of the officers commanding the vessels in the river. At this council the commander of the "Monocacy" announced that he could take no part in any active operations, as the Ultimatum had not been signed by his admiral. As to the "Akaru," owing to her damaged engine, she was obliged to remain at her former post at Tongku station.

Plan of Attack on the Forts.—For the six gun-boats, in case the Chinese refused to deliver up the forts, the following plan of operations was agreed upon:—

1. Previous to the attack all the gun-boats are to take up the disposition No. 1, shown on Plate 7.

2. At the commencement of the attack all the boats are to concentrate their fire on Fort No. 4, so as to prepare the way for the land forces. Those guns, however, which by reason of their angles of fire cannot be brought to bear on this fort, shall bombard one of the southern forts.

3. Fort No. 4 will be the first to be attacked by the landing parties.

4. As soon as the landing parties approach Fort No. 4 the boats are to turn their guns on Fort No. 1.

5. On the capture of Fort No. 4 the gun-boats are to stand by to weigh anchor, and on Fort No. 1 being taken they are to take up station No. 2.

6. When Fort No. 1 is taken, its guns are to be turned on to Fort No. 2, on which all the gun-boats are then to concentrate their fire.

7. As soon as Forts Nos. 4 and 1 are captured, the landing parties are to proceed to the other side of the river and attack Fort No. 2 and then Fort No. 3.

8. At the commencement of the action torpedo-boats Nos. 203 and 207, together with the English destroyers, will attack the four Chinese torpedo-boats lying in the river and take them up the stream to Tongku station. The above plan of attack was drawn up under the following considerations :—

1. Disposition No. 1, which the gun-boats were to occupy before the commencement of the action, possessed the following undoubted advantages :—

a. By taking up this position the gun-boats found themselves in rear of Forts Nos. 1, 2, 3, and 5, which gave them the opportunity of bombarding these forts on the side most disadvantageous to them. At the same time it gave them the chance of blowing up the powder and shell magazines, which could not possibly have been effected by taking the forts in front.

b. The forts could bring fewer guns to bear on the boats in this position than in any other, except perhaps in position No. 2 ; but at the commencement of the attack this position would have been extremely dangerous to occupy, as the vessels would have come under the very muzzles of the guns in Forts Nos. 4 and 1.

c. In this position the range of the nearest fort—not to mention that of the most distant—was such that there was every reason for hoping that the projectiles from most of the guns, in clearing the rear face of the work which was lower than the flank face, would burst inside the fort and cause an explosion of the powder and shell magazines, which, as is well known in all Chinese forts, are almost entirely unprotected in the rear. Besides this the shells would have the widest effect on the garrison.

2. The reason for concentrating the fire of the gun-boats on each fort at a time, instead of distributing it all over the forts, is self-evident.

3. It was decided to attack Fort No. 4 first for the following reasons :—

a. This fort was protected on all sides by a comparatively high breastwork or parapet at a short distance from the fort itself. Therefore it offered much greater resistance to the guns of the boats than the other forts, for the shells in most cases would either hit this breastwork or would clear the whole fort without doing any real harm. For this reason this fort, although less powerfully armed than the southern forts, was really more invulnerable to artillery fire. Thus it was most important to capture No. 4 first, because then the other forts would be more at our mercy. To prepare the way for the land troops was not such an impossible task for the gun-boats, as it was fairly safe to count on the combined fire of all the Q.F. guns in the boats, compelling the Chinese to take shelter behind the parapets and thus, if not altogether silencing the musketry fire on the advancing storming parties, at any rate considerably reducing it.

b. With the gun-boats stationed according to disposition No. 1 the direction of the attack throughout its entire extent would lie outside the line of fire of the gun-boats, so that they (the gun-boats) would not have to cease firing until the attacking party were right up to the breastwork.

c. A double-covered way led from this fort to Fort No. 1, thus enabling the storming parties, after capturing No. 4, to move forward on No. 1, being screened the while from the guns of the south forts.

d. On the capture of Forts Nos. 4 and 1 the gun-boats would be enabled to draw nearer them, and, by occupying disposition No. 2, to open fire on the flanks of the south forts when the attacking parties, advancing on the south forts, would again be outside the line of fire of our gun-boats.

4. Disposition No. 2 was selected for the following reasons :—

a. By taking up this position after the capture of Forts Nos. 4 and 1, the gun-boats would be able to concentrate their fire on the flanks of Forts Nos. 2 and 3 at a comparatively short range, while only a very few of the guns in these forts could be brought to bear on the gun-boats, as Fort No. 3 would be nearly in a line with No. 2, and the guns in Fort No. 2 would mask one another.

b. The gun-boats' fire ought to be particularly effective on Forts Nos. 2 and 3, as, in addition to being well exposed, these works were not provided with traverses.

Regarding that bend in the river which was selected for disposition No. 1, the following points should be noted :—

The extent of this bend of the river (see Plate 7) is six cables. Since the average length of the gun-boats was 200 feet, and the intervals between them three-quarters of a cable length, it was not possible to station more than six in this bend of the river. Thus the majority of the boats would not only have been of no real use before the occupation of disposition No. 2, but they might have done a great deal of harm, as they would have been obliged to have anchored either somewhat higher up the river or at Tongku itself, and having to fire at an object they could not see across the other gun-boats, they would have run a good chance of hitting the latter. To reduce in disposition No. 1 the intervals between gun-boats to less than three-quarters of a cable length would not have been possible, as a change in the tide during the attack would have to be counted on. To use kedge-anchors at the stern would also have been dangerous, as the hawser might be cut by a shell, which would cause the craft to turn to the current, and so bring about a collision with the next boat.

Occupation of Disposition No. 1 by the Gun-boats.—In accordance with the above disposition, the "Koreets" and "Giliak" were not to change their places. The "Bobr" occupied her station at 8.30 p.m., at the same time as the "Algerine," with both the English destroyers alongside her. The commanding officers of the "Lion" and "Iltis" notified the commander of the "Bobr" that they would take up their positions as soon as the first shots were fired.

All the ships cleared for action.

At 11 o'clock p.m. the messenger who had been sent with the Ultimatum returned. According to him the commandant of the forts announced that personally he had no reason to urge against the surrender of the forts, but that he must ask for instructions from his Government, and he hoped to be able to give an answer before the appointed time, *i.e.* before 2 o'clock at night.

Commencement of the Battle.—At 12.50 in the morning of the 4th (17th) June the first shot was fired from Fort No. 4, whereupon all the remaining forts opened fire, to which the gun-boats replied.

Both the British destroyers immediately weighed anchor and supported by the machine-guns of the "Giliak," seized the four Chinese torpedo-boat destroyers, and took them to Tongku.

The "Lion" and "Iltis" also weighed anchor and opening fire as they steamed, took up their stations in the "fighting disposition," the former at 1.20 and the latter at 1.35 at night.

One of the first shots fired by the Chinese was an 8-centimetre shell, which pierced the "Giliak's" mast above the fighting top and severely wounded, with the splinters, torpedo officer Lieutenant Bogdanov, killed a torpedo petty officer, and wounded a signalman and the captain of a machine-gun. At 1.5 a.m., the same vessel was struck by a 6-inch shell, which penetrated the side and burst in an empty coal bunker, and by the force of the explosion broke in the door, bulkhead, the small pipes in the

starboard stokehold, and both the principal steam-conducting pipes, killing two and wounding six men. The electric light was extinguished and all the electric communicators ceased to act.

Recourse was had to hand work. By 4 o'clock in the morning these damages were so far repaired that steam could be got up in the three port boilers and the engines made to work at reduced speed.

At 1.30 a.m. a third shell struck the "Giliak" (also about 6-inch calibre) and made a hole 1½ feet wide in the port side in the rope store room below the water-line, and then penetrated the water-tight bulkhead of the 75-millimetre bow magazine and exploding about 130 cartridges. By this explosion the gunnery officer, Lieutenant Titov, was badly burnt, while 5 men were killed and 38 wounded; while the water-tight deck was bulged out and wrenched from its bulkhead, and the main and upper decks caught fire. The fire was extinguished in fifteen minutes with the aid of the Stone pump, fire engines and buckets, since the only steam pump had been torn from its place. The explosion was so violent that the flame from it, bursting through the hatchways and elevator pipe, drew the attention of the other ships; but, in spite of it all, the after guns never ceased firing, and, as soon as the fire was got under, the bow guns also began again. The gun-boat heeled over considerably to port, the water flooded three compartments, and, pouring in through the bulkhead that had been wrenched apart, it filled the 120-millimetre magazine. In the very heat of the battle a plaster was put on and the flow stopped. About 3 o'clock in the morning the "Koreets" received her first injuries. Two of the enemy's shells, one after the other, fell into the senior officer's cabin, completely wrecked the cabins on the starboard side, and set fire to the ward-room over the after shell-room, the powder and cartridge magazines. The magazines were at once covered over and the fire put out. Gunnery officer Lieutenant Bourakov was killed by splinters from these shells. Two of the men were killed and one mortally wounded.

At 3.45 a.m. a third shell penetrated the washboard, passed over the deck-boat forward of the engine casing, ripped open the starboard ventilator, and burst in the port one; by its bursting were mortally wounded Lieutenant Dedenev and four men. The vessel was hit by a fourth shell about 4.30 a.m., by a fifth and sixth about seven o'clock. In spite of all this the gun-boat did not slacken fire for a minute. About three o'clock in the morning a German cutter passed along the line of gun-boats, and the officer in command told us that the storming column had commenced its attack on Fort No. 4.

At 3.20 a.m., in order to give the gun-boats the opportunity of finally driving away the Chinese behind the parapets, the storming column arrested its onslaught,[1] but at 3.55 again moved forward. According to a signal previously agreed upon, the gun-boats turned their fire on to Fort No. 1 and the south forts.

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[1] This is not correct. The assaulting column halted because it could not advance farther with safety, the bombardment being continuous the whole time.—ED.

The lines having approached within about 500 paces from Fort No. 4 now lay down, and the Japanese land guns opened fire.[1] The bombardment of the breast-work lasted about five minutes, after which the advance began again, and in another five minutes the column with shouts of "hurrah" rushed to the assault.

In the first line were the Rifles, and in the line with them were the English.

Storming and Capture of Fort No. 4.—On reaching the moat which encircled the fort, the Rifles dashed along it to the right to the gates on the bank of the river, crossed the moat by the bridge and began to beat in the gates, which were blocked up on the inside with sacks full of sand. In this work the Japanese, who were on the right flank and now appeared in line with the Russians, took an active part. As soon as the gates were knocked in, in rushed our men first and after them the Japanese, who received point-blank a charge of grape-shot from a gun posted to the side of the entrance.[2]

The garrison did not wait for the bayonet but fled.

At the moment when the storming of Fort No. 4 commenced, an explosion took place in Fort No. 3.

About 5.30 a.m. Fort No. 1, which had been almost silenced by the fire of the gun-boats, was captured by the storming column.

As soon as the flags of the Allies were hoisted on it the gun-boats began, one after the other, to weigh anchor and to take up disposition No. 2.[3]

Occupation of Forts Nos. 2 and 3.—At 5.52 a.m. two explosions took place almost simultaneously in Fort No. 2. The Chinese rushed out of the forts, overwhelmed by the fire of the ships' Q.F. guns.[4] The landing party was transported across the river and occupied Fort No. 2 without opposition, and after that Fort No. 3.

At 6.45 a.m. the enemy had finally disappeared, and all the forts were in the hands of the Allies.

The losses of the Allies in this affair were as follows:—

"Koreets"—killed, Lieutenant Bourakov; mortally wounded, Lieutenant Dedenev; 8 men killed, 21 wounded.

"Giliak"—wounded, Lieutenants Titov and Bogdanov; 8 men killed and 45 wounded.

"Lion"—3 men wounded.

"Iltis"—1 officer killed; 1 (commander) mortally wounded; 4 men killed, 14 wounded.

"Algerine"—2 officers and 7 men wounded.

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[1] The assaulting party never paused "for the Japanese land guns to open fire," but advanced from 1,200 yards distance right up to the fort.

[2] No Russian troops entered the fort until it was captured by the English and Japanese. The episode of the grape shot and the Japanese is purely imaginary.

[3] The gun-boats moved up the river, headed by the "Iltis" and "Algerine," as soon as Fort No. 4 was taken.

[4] The Chinese rushed out of Forts Nos. 2 and 3, not because they were overwhelmed by the gun fire from the ships, but from panic at the explosion of their magazines, and the sight of the landing party's success in Fort No. 4.—ED.

In the storming column the 12th East Siberian Regiment lost 2 men wounded and 1 man mortally wounded. The English lost 1 man killed and 6 wounded. The Japanese had 1 officer mortally wounded, 2 men killed, 2 mortally wounded, and 4 wounded.

The total loss in the ships and in the storming columns was:—Officers killed and wounded, 9; men, 129.

To calculate the exact loss of the Chinese was not possible. It is supposed that they must have lost between 600 and 800.[1]

The "Iltis" had the greatest number of hits. One shell struck her hull below the starboard cathead, and about fifteen struck the pipes and superstructure. The bridge and chart-house suffered especially.

The "Lion" had a 15-centimetre shell in her hull under the bridge. The shell passed 1½ feet above the steam boiler and burst in the sail loft, causing a fire, which, however, was soon extinguished. Besides this some splinters of shells were found in the stern of the hull, and several injuries to the masts and yards.

The "Algerine" had several holes in her ventilators and boats.

A shell (approximately 5-inch calibre) penetrated the side of the "Whiting" and found its way into the boiler, damaging the pipes.

The following table gives the number of hits in their numerical order:—

"Iltis"	16 hits
"Koreets"	6 ,,
"Algerine"	5 ,,
"Giliak"	3 ,,
"Lion"	3 ,,
"Whiting"	1 ,,
"Bobr"	1 (splinter)

The injuries to the ships' guns were very insignificant, viz., a 9-inch gun in the "Bobr" got jammed by a shell splinter after the fourth round, but was put right on the following day, and the "Iltis" had five 37-millimetre Hotchkiss guns and two machine guns put out of action.

The forces that the Allies could dispose of, and the strength of the forts, may be seen in detail from the following table:—

ARMAMENT OF FORTS.

Fort No. 1.

152-millimetre Armstrong with all-round fire and with a 2½-inch steel shield	1
120-millimetre Krupp guns with all-round fire and 1½-inch steel shields	2
6-inch Krupp on fortress gun carriages	7
6-inch S.B. cast-iron	7
8-centimetre Krupp on field carriages	3
8-centimetre Krupp on fortress carriages	2
Cast-iron mortars	1
Copper or brass guns	3
Total	26 guns

[1] Chinese loss was probably more like 100 or 200.

Fort No. 2.

150-millimetre Krupp on mountings, with all-round training and shields	1	
152-millimetre Armstrong with all-round fire and $1\frac{3}{4}$-inch steel shields	3	
120-millimetre Krupp with all-round fire and $1\frac{1}{2}$-inch steel shields	2	
6-inch Krupp on fortress carriages	6	
8-inch Krupp M.L.R.	1	
180-millimetre short Chinese M.L.R.	2	
8-inch cast-iron S.B. guns	1	
Various calibre S.B.	50	
8-centimetre Krupp on field carriages	2	
8-centimetre Krupp on fortress carriages	3	
Brass and iron mortars	3	
Total	74	guns.

Fort No. 3 (New).

24-centimetre Krupp on mountings with all-round fire, without shields	2	
21-centimetre Krupp, as above	2	
15-centimetre Krupp, as above	2	
16-centimetre Krupp on fortress mountings	4	
6-inch Krupp on fortress mountings	4	
8-centimetre on field carriages	4	
Total	18	guns.

Fort No. 4.

120-millimetre Krupp with all-round fire and $1\frac{1}{2}$-inch steel shields	4	
8-centimetre Krupp on naval mountings	5	
8-centimetre Krupp on field carriages	4	
5-inch Vavasseur guns	2	
5-inch steel M.L.R.	8	
12-pounder brass guns	4	
6-pounder brass guns	3	
Cast-iron mortar	1	
Total	31	guns.

Fort No. 5.

8-centimetre Krupp on field carriages	9	
6-inch Krupp on fortress mountings	4	
Various cast-iron guns	4	
Brass guns	2	
Mortars	2	
Total	21	guns.

In the accompanying table is shown the calibre and number of guns:—

a. Mounted in each fort.

b. Which could be brought to bear when attacked from the sea (from the front).

c. Which could be trained on the river.

d. Which could be trained on the gun-boats when the latter were occupying the stations of the first period of the action.

e. Which actually had been brought to bear on the boats as far as could be judged from the appearance of the guns and of the mountings when examined on the day following the battle.

Table No. 1.

Calibre of guns.	Fort No. 1.					Fort No. 2.					Fort No. 3.					Fort No. 4.					Fort No. 5.					Total.				
	a	*b*	*c*	*d*	*e*	*a*	*b*	*c*	*d*	*e*	*a*	*b*	*c*	*d*	*e*	*a*	*b*	*c*	*d*	*e*	*a*	*b*	*c*	*d*	*e*	*a*	*b*	*c*	*d*	*e*
24-centimetre Q.F.											2	2	2	2	2	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2
21- " "											2	2	2	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
152-millimetre "	1	1	1	1	1	3	3	3	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	4	4	4
150- " "	—	—	—	—	—	1	1	1	1	1	2	2	2	2	2	—	—	—	—	—	—	—	—	—	—	3	3	3	3	3
120- " "	2	2	2	2	2	2	2	2	2	2	—	—	—	—	—	4	4	4	4	4	—	—	—	—	—	8	8	8	8	8
6-inch	7	6	2	—	—	6	5	2	1	1	4	4	—	—	—	—	—	—	—	—	4	4	—	—	—	21	19	4	1	1
16-centimetre	—	—	—	—	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	—	—	—
5-inch Vavasseur	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	2	1	—	—	—	—	—	—	2	1	2	1	—
8-centimetre	5	1	4	4	3	5	—	4	4	3	4	4	4	4	3	9	4	2	2	2	9	7	4	—	—	32	16	18	16	11
Various cast-iron S.B. guns	7	4	3	2	—	51	37	12	9	—	—	—	—	—	—	7	3	—	—	—	4	3	—	—	—	69	48	15	11	—
M.L.R.	—	—	—	—	—	3	2	1	—	—	—	—	—	—	—	8	4	4	3	2	—	—	—	—	—	11	6	5	3	2
Various brass	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	—	—	—	—	2	—	—	—	—	12	—	—	—	—
Cast-iron mortars... ...	1	1	—	—	—	3	2	—	—	—	—	—	—	—	—	1	1	—	—	—	2	1	—	—	—	7	5	—	—	—

In this way the boats had been the targets of the following guns:—

Q.F. guns of large calibre - - - -	4
Q.F. guns of medium calibre - - - -	15
B.L. guns of medium calibre - - -	1
B.L. guns of small calibre - - - - -	11
M.L. guns - - - - - - -	2
Total - - - - -	33 guns.

Armament of the gun-boats that took part in the attack on the forts:—

"*Bobr.*"

9-inch - - - - - - - -	1
6-inch 30-calibre - - - - - -	1
9-pounder, 1887 mark - - - - -	6
37-millimetre 5-barrel Hotchkiss - - -	4
2½-inch Baronovsky - - - - - -	1

"*Koreets.*"

8-inch 35-calibre - - - - - -	2
6-inch 35-calibre - - - - - -	1
9-pounder 1877 pattern - - - - -	4
2½-inch Baronovsky - - - - - -	1
37-millimetre 5-barrel Hotchkiss - - -	4
47-millimetre 5-barrel Hotchkiss - - -	2

"Giliak."

120-millimetre Q.F. Canet	1
75-millimetre	5
47-millimetre 1-barrel Hotchkiss	4
37-millimetre 1-barrel Hotchkiss	2
2½-inch Baronovsky	1
Machine guns	2

"Iltis."

100-millimetre Q.F. guns	6
47-millimetre Q.F. guns	4
37-millimetre Maxim	3

"Algerine."

88-millimetre Q.F.	4
37-millimetre Q.F. Maxim	8
Maxim machine guns	4

Thus the total number of guns in all the ships amounted to 71

Of these there were able to fire at the forts, and actually did fire, the following:—

Q.F. medium calibre	5
Q.F. small calibre	27
Cartridge guns, large calibre	2
Cartridge guns, medium calibre	4
Cartridge guns, small calibre	5
Machine guns	5
Total of guns	48

Number of Shells fired—"Bobr."

9-inch shells	4
6-inch shells	62
9-pounder shells	202
37-millimetre shells (5-barrel)	500
2½-inch shells (Baranovsky)	30

"Koreets."

8-inch shells	100
6-inch shells	68
9-pounder shells	150
47-millimetre shells	340
37-millimetre shells	600
2½-inch (Baranovsky)	45

"Giliak."

120-millimetre shells	66
75-millimetre shells	857
47-millimetre shells	660
2½-inch shells	235
Machine guns	15,000

"*Lion.*"

138-millimetre shells	81
100-millimetre shells	71
37-millimetre shells	1,200

"*Algerine.*"

Fired in all 595 rounds.

"*Iltis.*"

88-millimetre shells	658
37-millimetre shells	1,190
Machine guns	3,174

Injuries to the Forts.—Fort No. 1.—1. Both barbettes on which the 152-millimetre and 120-millimetre Q.F. guns were mounted were ploughed up by shells and splinters.

2. The shield of one of the 120-millimetre guns was pierced in several places by shells which burst behind the shield apparently right on the gun; the gun, however, was not damaged and was able to be worked.

3. A large explosion in the powder magazine.

4. Three 6-inch guns were disabled.

5. The parapet facing the river was badly ploughed up by shells bursting.

Fort No. 2.—1. The 150-millimetre Q.F. gun had its shield pierced, its compressor cylinder damaged, and the gun jammed. The gun was put out of action.

2. The 120-millimetre Q.F. gun nearest the river had its shield pierced in four places, besides having five dents caused by splinters; the compressor cylinder on the port side was broken, and the gun was put out of action.

3. A shell struck a 120-millimetre Q.F. gun near the revolving-plate, tearing away the bolts which fixed the foundation to the barbette. The gun was put out of action.

4. The shield of a 120-millimetre Q.F. was penetrated in two places, the compressor cylinder damaged, and the gun put out of action.

5. The training gear of a 152-millimetre Q.F. gun was damaged. The gun could not be worked.

6. Two 6-inch and one 8-centimetre were disabled.

7. Eight explosions took place in the casemates of the left parapet (that facing the sea) where the cartridges, shells, and powder were stored.

8. Great explosion in a powder magazine.

9. Great explosion in a cartridge magazine.

10. The commandant's house and various buildings were destroyed.

Fort No. 3.—1. A 21-centimetre Q.F. gun was damaged and could not be worked.

2. Explosion in a small cartridge magazine.

Fort No. 4.—1. One 120-millimetre Q.F. gun had its shield pierced in three places and its elevating gear damaged. The gun was put out of action.

2. Another 120-millimetre Q.F. had its shield pierced in two places besides receiving other injuries. The gun was put out of action.

3. Two faces of the parapet commanding the river were clean razed by shells. The massing of the shells around the 120-millimetre Q.F. guns was particularly noticeable.

4. Four 8-centimetre guns were disabled.

Fort No. 5 had no injuries.

The following analysis of the damage done by the fire from the gun-boats is given :—

1. Out of the sixteen Q.F. large and small-calibre guns which were the most dangerous to the gun-boats eight were disabled, and out of the eleven which remained uninjured, by the end of the second period of the attack, six could still be worked, five of these, however, were in Fort No. 3, which, by reason of its remoteness and its apparently limited supply of cartridges, inflicted no harm on the gun-boats. Owing to this the gun-boats generally did not direct their fire on it, yet for all that one gun in this fort was disabled.

2. Three large explosions of the powder and cartridge magazines took place, and another explosion in Fort No. 2 compelled the Chinese to fly from the fort. Eight small explosions took place.

3. Considerable amount of damage was done to the interior of the forts, especially to Fort No. 2.

Such excellent shooting, both in point of accuracy and in the distribution of the fire, allowed the plan of attack to be carried out in all its details, and thanks to it the Chinese, at the most decisive moment of the action, could only dispose of six Q.F. guns, five of which were in Fort No. 3, whose fire was made extremely difficult by being masked by Fort No. 2. In the latter fort, the most dangerous to the gun-boats, only one Q.F. gun remained that could be fired.

The author makes the following deductions :—

1. A bombardment, even of comparatively weak forts by exclusively direct fire, especially from the front, unsupported by land forces, is absolute folly. To destroy permanent fortifications from ships and silence their batteries, mortars are absolutely necessary in the ships. This is especially the case when attacking batteries on high ground when direct fire is wholly without effect.

2. Not being protected throughout their entire extent, the ammunition hoists will not work after the first few shots. An explosive shell, even of small calibre, will put the elevator out of action and so cut off the cartridge magazine from the guns it is meant to feed. To ensure the supply of ammunition being continued, beside the armour protection of the elevator shafts and in addition to the donkey engines, both electric and hand-working, there ought to be arranged :—A hand delivery through

the elevator shafts in case of any injuries happening to the engines, the hawser, or the sheaves; and in the event of the shaft itself getting damaged, there ought to be a hand delivery alongside it through specially constructed hatchways and man-holes.

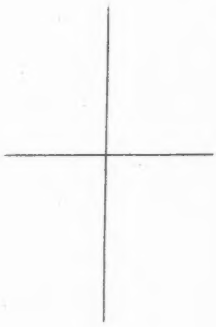
3. The fighting light arrangements generally, and the lighting of the cartridge and shell magazines in particular, should be without fail of a double nature—both electric and from some other source. For the latter compartments candle-light is not suitable, as owing to the comparatively high temperature in them the candles are likely to melt.

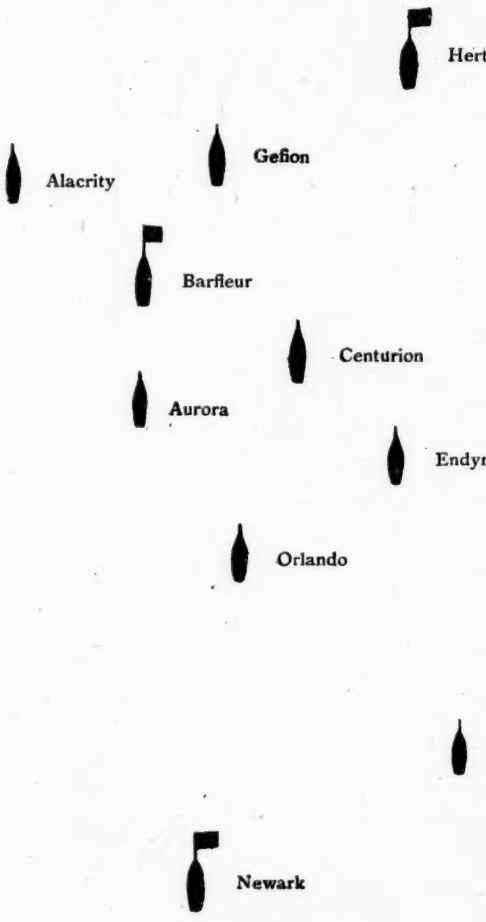
4. The view, often expressed, that gun-shields less than 4 to 5 inches thick afford no protection whatever to the gun's crew or to the gun itself, has been entirely confirmed. They simply serve as traps to catch the shells.

TAKU ROADSTEAD.

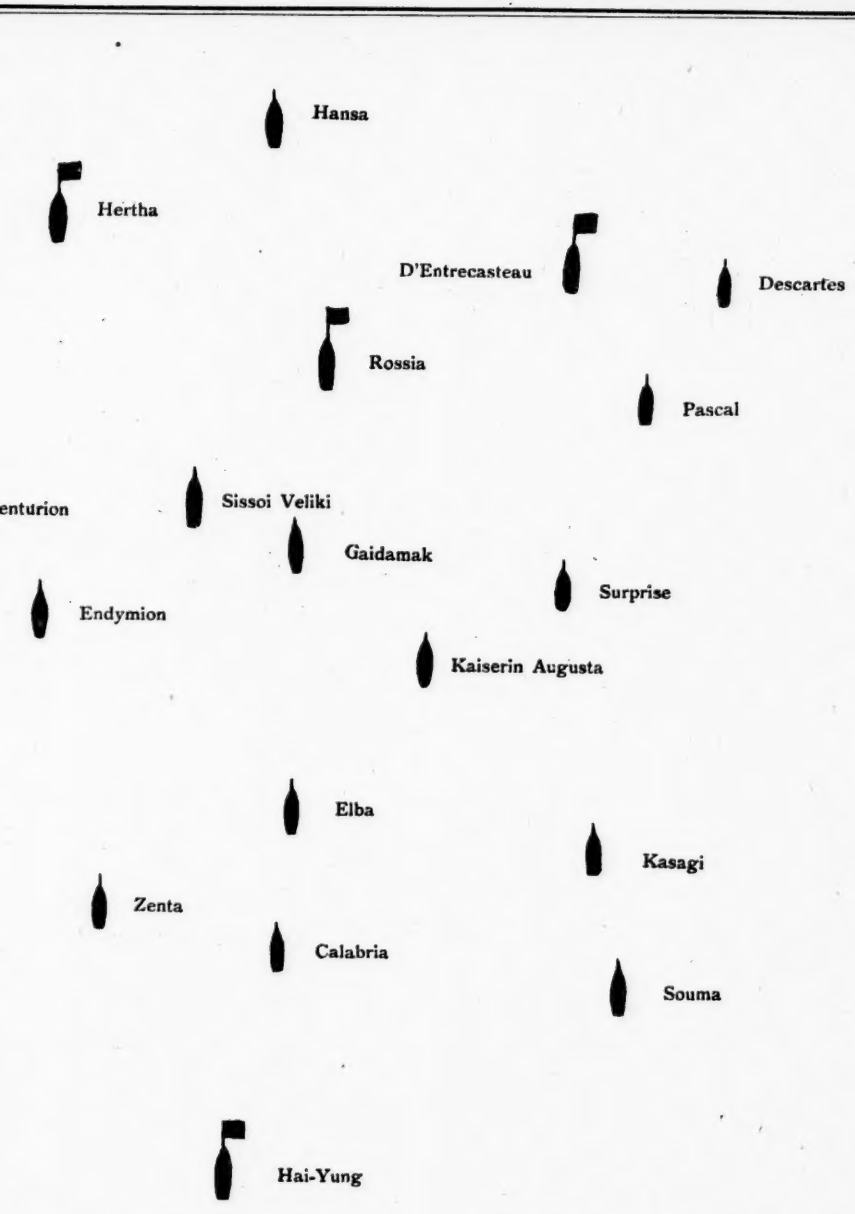
3rd to 4th June, 1900.

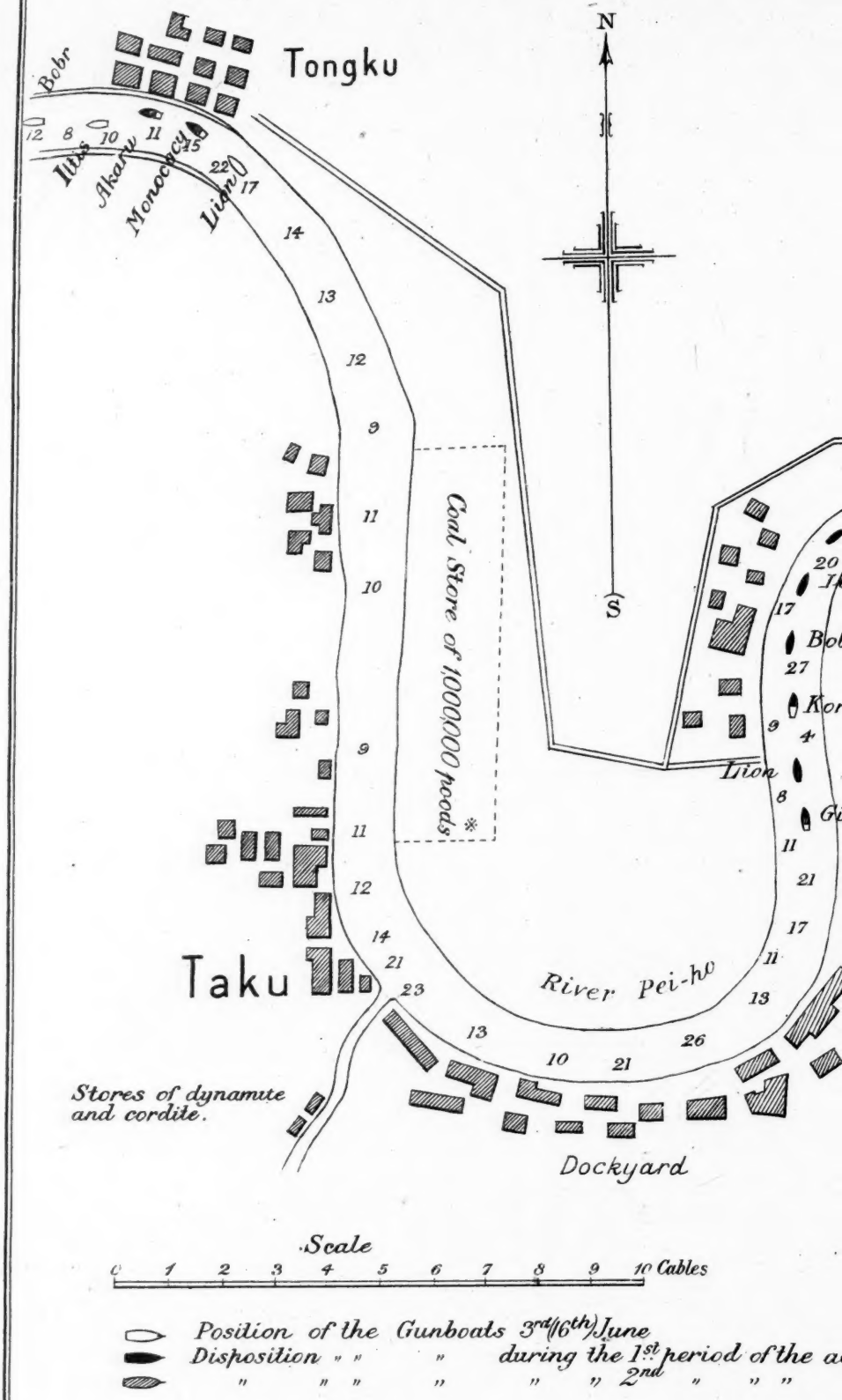
1 cm. = 1 cable.





J. J. Kelliher & Co. Ltd. Lith. London

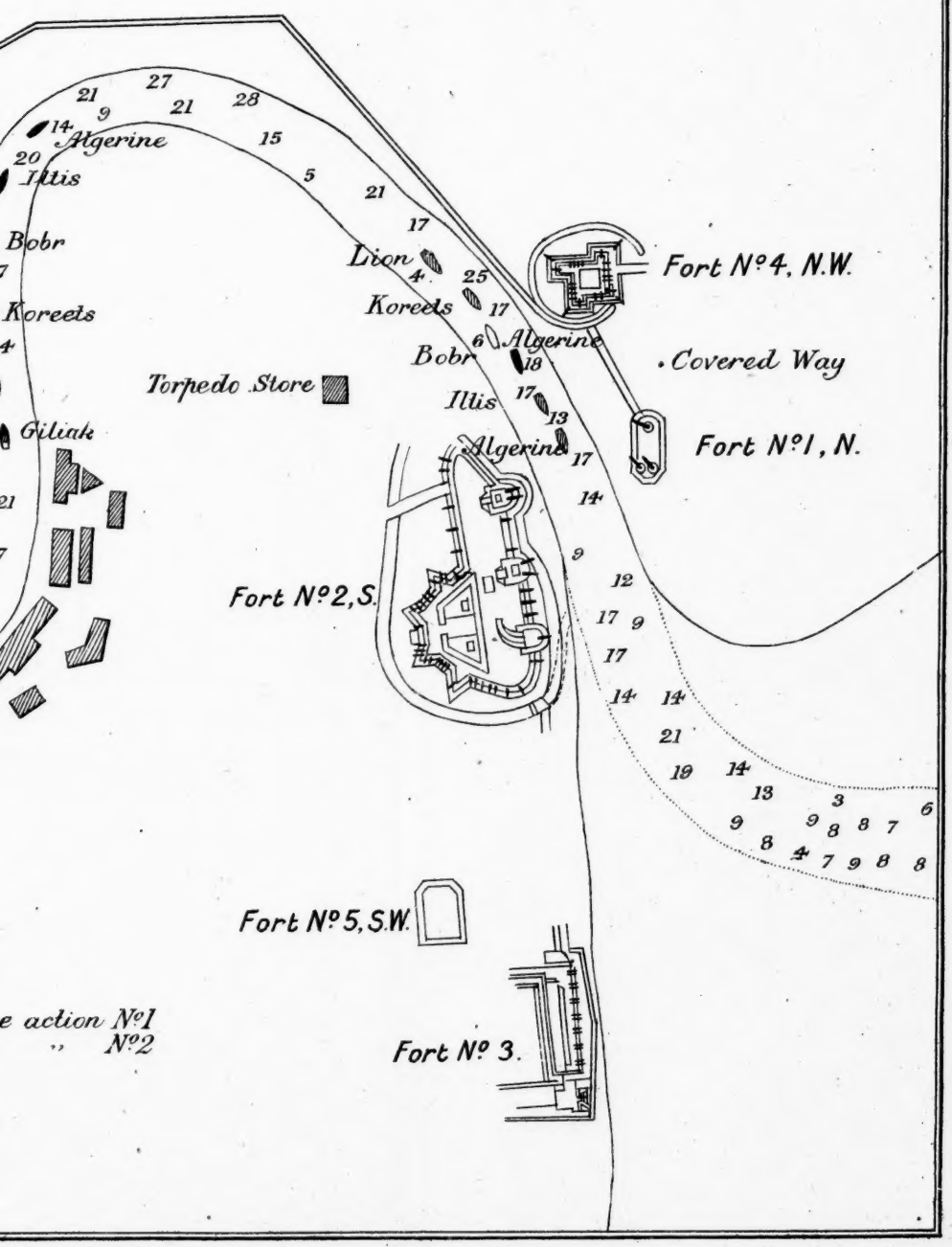

Hansa
Hertha
D'Entrecasteau
Descartes
Rossia
Pascal
enturion
Sissoi Veliki
Gaidamak
Surprise
Endymion
Kaiserin Augusta
Elba
Kasagi
Zenta
Calabria
Souma
Hai-Yung



* NOTE, 1 pood = 36 English lbs.

J. J. Kellner & Co. Ltd. Litho. London

Disposition of Gun-Boats
During the Capture of the
Taku Forts.
4th June, 1900.



THE SOUTH AFRICAN WAR OF 1899-1900.

Translated by permission from the "Jahrbücher für die Deutsche Armee und Marine."

[This translation appears in the JOURNAL by special request. The "Jahrbücher für die Deutsche Armee und Marine" is one of the leading German Service periodicals, and the views expressed in its articles may be held to largely represent German Service feeling.—ED.]

THE first official publication relating to the war in South Africa appeared on the 26th January, 1900, in No. 27,157 of the *London Gazette*.[1] A continuation of this followed on the 17th April. This authentic account furnishes the material for a historical essay upon the war from the military point of view. Such an essay, based solely upon the accounts emanating from one of the belligerents, must necessarily be incomplete; but there is no prospect of the issue of a Boer official account of the war. It is necessary to point out that all the "Official Despatches" which have hitherto appeared in the English military Press are only extracts, more or less happily selected, from the complete official account now issued, and were only published as such. The laborious strategical combinations, which these papers now disclose for the benefit of military critics of all nations, have with the lapse of time mostly become worthless pieces of military literature.

One impediment to the study of the war still remains, namely, the want of reliable maps. This want was severely felt by the English generals. Unfortunately, moreover, the plans and sketches which accompanied the despatches, and are referred to in the text, have not been printed with the official account, but remain in the pigeon-holes of the War Office.

[1] A special edition of the *Gazette*, which corresponds to the German *Reichsanzeiger*, appeared on the 26th January and 17th April, entitled, "The True History of the War, Parts I. and II., being the Official Despatches and Enclosures from the General Commanding-in-Chief of the Forces in South Africa."

The first part deals with the period from the 7th October to the 28th December, 1899, the second part continues the account to the 24th January, 1900.

These publications, which throw a strong light upon the mistakes of the English generals, were violently attacked by the Jingo Press. Nevertheless, a continuation of this official account is expected, especially as the next number will deal with Lord Roberts' intervention in the war, and its important consequences.

Preliminary History of the War.

The material for an authentic account of the period immediately preceding the war is to be found in the Blue Books numbered "South African Republic, C. 9,345, 9,404, 9,415, 9,518, 9,521, and 9,530." The last-mentioned closes with the Ultimatum.

But the history of the events leading up to the war begins 100 years earlier, and deals with the origin and increasing tension of the situation which culminated in an appeal to the sword. It is, therefore, necessary briefly to relate the history of South Africa from the beginning of the century.

On the 16th September, 1795, Holland, then a declining sea Power, was forced to hand over Cape Town and Cape Colony to an English squadron. She had held the Cape for 150 years. At the Peace of Amiens, in 1802, Napoleon the Great gave back the colony to Holland.

But to England, as ruler of India, possession of the Cape is a vital necessity. Hardly had the danger of invasion passed with the year 1805, when England recovered from her terror, and in 1806, while Napoleon carried on a mortal struggle on the Continent, England's Navy won the Cape.

Now there is no doubt that it was under English rule that the Colony first became valuable. But, even in those early days, English rule sowed the seeds of the trouble which has given rise to the present war. Ill-regulated philanthropy required the abolition of slavery, which was carried out with undue haste; and, further, led to the ill-considered measure of putting the natives on a footing of political equality with the old Dutch settlers, who were thereby agriculturally ruined. The abolition of slavery crowded the country with loafing free natives. England was realising the experiences of the magician's pupil in Goethe's poem. She had misused the magic wand of Liberty. The impoverished and, therefore, discontented, Dutch colonists (the Boers) flocked together and decided to emigrate. In 1834 and the following years the Boers trekked in hundreds towards the north, with their flocks and herds, and founded new States in Natal and beyond the Vaal and Orange Rivers.

This foundation of alien States was naturally a thorn in the flesh to England. Her troops followed on the heels of the emigrants; Natal was declared British territory in 1843, and in 1848 the country between the Vaal and Orange Rivers was formally appropriated. On this occasion the English governor, Harry Smith, declared that "the country beyond the Vaal (the Transvaal) should never be proclaimed a British possession, except at the request of a majority of settlers."

Shortly afterwards an insurrection of the Orange River Boers under Pretorius broke out and was suppressed; Pretorius fled to the Transvaal, where he collected fresh followers, and threatened to return. This induced England to agree to the Sand River Convention of 1852, which secured the neutrality of the Vaal Boers, by guaranteeing their complete independence and freedom from interference by the British Government. This measure deprived Pretorius of his supporters. But, in the mean-

time, the Basutos in the Orange State and the Kaffirs in Cape Colony had grown too strong for the English. Moreover, the British policy of those days, under the pressure of the Indian Mutiny,[1] was strongly opposed to expansion. The result was that the English retired from the disputed territory, and that on 23rd February, 1854, they acknowledged the independence of the Orange Free State.

But the crisis in British affairs passed over. With the help of German mercenaries—the same men who had fought for England in the Crimea[2]—the insurgent native tribes were subdued. The cattle plague cleared the country of the troublesome natives, of whom 25,000 died of starvation and some 100,000 emigrated. The great Indian Mutiny, too, was successfully overcome. England had time to breathe again, and her appetite returned. At first the Boers were forgotten. The Suez Canal was near its completion, and every spadeful of sand dug out of this, the short cut to India, helped to weaken England's interest in the Cape, and especially in the South African boundary States. After all, the barren grass steppes, where the Boers pastured their cattle, were not worth the expenditure of blood and treasure. So strong was this feeling, that twice (in 1858 and 1866) the offer of the Orange Free State voluntarily to submit to British rule was declined.

Then the unexpected happened. In 1867 the first diamonds were found on the Orange River. There was an immediate revolution in the policy of the Government. The reserve which had previously characterised it gave way to violent greed for the possession of the diamond-fields. The pretext put forward was that the interests of peace in South Africa required the incorporation of the Boer States into Cape Colony. As a beginning, the Griqualand diamond-fields were summarily annexed. The Boers protested, but a packed Court of Arbitration decided in England's favour. The Transvaalers wished to retort by annexing the country between them and Delagoa Bay, but this project was decisively vetoed by England.

Events outside the Boer States contributed to assist England's greed. The Zulus, always at war with the Boers, appealed to England for help and protection. Even the missionaries brought their influence to bear in England's favour. Under the pretence of safeguarding the rights of the natives, the annexation of the Transvaal was proclaimed on the 12th April, 1877. English troops marched into Pretoria, and English gold flowed into the empty coffers of the little independent State. Both helped to win for England numerous adherents in the Transvaal itself. In vain deputations of the Transvaal Boers, whose leader was Vice-President Kruger, travelled to London to remonstrate against the annexation. The suppression of the Zulu revolt,[3] under Cetewayo, in August, 1879, increased the British prestige.

[1] The Indian Mutiny did not break out until two years after the acknowledgment of the Independence of the Orange Free State.—ED.

[2] The German Legion took no part in the fighting in the Crimea.—ED.

[3] The Zulus did not revolt; they were a perfectly independent nation.—ED.

At last, on the 16th December, 1880, a Volksraad, convened by Kruger, Joubert, and Pretorius, declared the Transvaal Republic reconstituted. The small British force in the country was overpowered by the end of the month, and the reinforcements from Natal (1,400 men, with 6 guns), suffered a disgraceful defeat at Majuba Hill (27th February, 1881).

Great was the astonishment in England. The President of the Orange Free State was called in to arbitrate, and simultaneously a punitive expedition of 10,000 men, under Sir Frederick Roberts, was sent out. But it was too late. Before the arrival of the reinforcements Sir Evelyn Wood, the commander of the defeated British forces, had agreed to an armistice with the Boers, under stipulations admitting the independence of the Transvaal, subject to England's suzerainty. Under the circumstances England did not consider it necessary to re-open hostilities.

The agreement entered into by Sir Evelyn Wood with the Transvaal was ratified by treaty in August, 1881.

The installation of a British Resident in Pretoria, as an outward sign of the relation of suzerainty established by the above treaty, was exceedingly distasteful to the Boers. Accordingly it was not long before they began to kick against it. After much correspondence England, in 1884, consented to a new treaty, in which the "suzerainty" article of 1881 was dropped, and the following substituted:—"The South African Republic" (so the Transvaal State styled itself in 1884) "agrees to make no treaty or alliance with any other State or nation, except the Orange Free State, nor with any native tribe east or west of the Republic, without the consent of Her Majesty the Queen."[1] The principle of political subjection is again affirmed in this treaty, although in different words.

In the meantime, a fresh discovery made the Transvaal still more desirable. Gold had been added to the diamonds. From this date (1884) England systematically pursued the policy which led to the enclosure of the Boer States by a broad belt of English territory.[2] In this way Bechuanaland (1885), Zululand (1887), Matabeleland, Marotseland,[3] etc. (1888), and the country up to the Nyassa, were added to the British dominions. It is possible that the fear of the extension of German dominion over these countries was a determining factor in deciding on their annexation.

[1] The sophistry of the above phrases reminds one strongly of the Treaty of Uccialli, by which Menelek, without his knowledge, was constituted a vassal of Italy. (See this journal for 1896, November, page 136.) Just as in this case the actual expression "Protectorate" does not occur, so in the Anglo-Transvaal Convention of 1884 the dangerous word "suzerainty" is markedly avoided. Both the Italian and the English diplomats constituted for themselves the required admission of protectorate or suzerainty out of the context.

[2] In all these acquisitions of territory, Government always pushed on trading companies and missionaries in advance—certainly a most practical method of annexing new Colonies.

[3] Since styled Rhodesia.

Rich syndicates were formed to exploit the wealth of the new country, the leader being Cecil Rhodes, a man who began life in very modest circumstances. These syndicates laid railways and telegraph lines across great stretches of country. First the railway from the Cape to Buluwayo, the extension of which is to reach Khartoum; afterwards the line from Beira to Fort Salisbury connected Rhodesia with the two oceans. In 1891 England safeguarded her position by a treaty with Portugal, securing the right of pre-emption of the Portuguese possessions south of the Zambesi. But the only outlet to the sea that still remained open to the Transvaal lay through the Portuguese possession of Delagoa Bay. President Kruger recognised the importance of this line of communications, and hastened by every means in his power the construction of the Delagoa Bay Railway. But even here, at the Portuguese end of the line, England managed to have a finger in the pie. The contractor had refused to complete the line because Portugal had broken the contract by offering a concession to a rival line. The contractor demanded heavy damages—no less than £2,000,000 sterling—for the unfinished line. A Swiss Court of Arbitration was to settle the dispute. After the hearing of the case had been protracted for eleven years, the Court recently gave its decision at Berne. This decision was so much in Portugal's favour that, to England's great disappointment, Portugal will be able to pay the sum awarded. England will now have to invent other means of securing Delagoa Bay, and finally cutting off the Boers from the sea.

The Transvaal being almost entirely isolated, England now commenced a course of perpetual intrigue, with the object of driving the Boers either to voluntary submission or to an act of desperation.

The gold-fields had attracted foreigners of all nations to the Transvaal. The white population of the Transvaal numbered about 30,000 in 1883. In 1890 it had risen to some 120,000, and now amounts to 290,000. The rapid increase in the Boer population to some extent accounts for these figures; but the fact remains that at this period the Uitlanders and the Boers were about equal in numbers. The Uitlanders soon began to feel themselves a power in the land. And this gave England an opening for a regular system of persecution, which she carried on for several years.

A pretext was soon found. Under Article 14 of the Convention of 1884 all Uitlanders who submitted to the law of the land were entitled to full freedom of trade, rights of property, and personal liberty, with exemption from any taxes except those levied on the burghers as well. There was not a word in the Convention of their being on an equality as regards political rights with the burghers. Nevertheless, in the year 1889, the Transvaal Government voluntarily granted the right of voting to all Uitlanders willing to take the oath of naturalisation after a certain period of residence, and to bind themselves to military service under a field cornet. But, with the great increase in the numbers of the foreign population, this act of grace of the Transvaal Government became a source of political danger from within.

The improvement in the finances of the State had been very welcome to the Boer Government, but the country was now in danger of being flooded by the wave of immigration. To check this, and to prevent the Boers themselves from being crowded out of their position as rulers of the country, a second Volksraad was created in 1890. Naturalised Uitlanders were eligible for this second Volksraad after four years' residence, and a further period of ten years' residence was required before they became eligible for the first Volksraad. But in either case no Uitlander could be elected unless, on taking the oath of naturalisation, he had explicitly renounced his former nationality.

This restrictive measure proved insufficient, and a new law was passed, withdrawing a part of the rights conceded to the Uitlanders naturalised since 1890. By refusing, except in very exceptional cases, to allow foreigners a vote in the elections to the first Volksraad, which alone decided all matters of importance, the great majority of the Uitlanders were now deprived of all political influence. Most of them were indifferent to this; they made money freely out of the gold-fields, the Transvaal Government protected their lives and property, and they asked no more of it.

The great English financiers thought otherwise. Two men in particular, both pecuniarily interested in trading concerns, strongly objected. They were Cecil Rhodes, Prime Minister at the Cape, and Mr. Chamberlain, British Colonial Secretary. They felt it as a standing grievance that a portion of their trade profits should flow into the coffers of the Transvaal Government. In their estimation the Boer State was a parasite living on their flesh. When, in 1893, the Witwatersrand, more productive than any gold-field hitherto known was discovered, and when, in the following years, whole crowds of foreigners flocked to the Transvaal, then these two men considered it time to act. By the end of 1895 their restless agitation in the Transvaal had succeeded in forming a Uitlander Association of 40,000 members, and they now believed that they could seize the Transvaal by a *coup-de-main*. With a handful of mercenaries, led by an adventurer of the worst type, Rhodes intended to surprise Johannesburg and Pretoria, and, with the support of the Uitlander Association, to become himself the ruler of the Transvaal. It is unnecessary to dwell upon the deplorable collapse of this filibustering expedition. Dr. Jameson crossed the frontier on the 29th December, 1895; on New Year's Day he and his companions were in the hands of the Boers.

We know from the revelations published in the *Indépendance Belge* that behind the Cape Prime Minister, Cecil Rhodes, stood the British Colonial Secretary. This explains the change of front in the Foreign Office policy since 1897. These disappointed hucksters aimed at revenge for the loss of the profits they had hoped to make. So long as the trial of Jameson and his companions lasted, and so long as there was any reason to fear an indiscretion on the part of one or another of the culprits, Chamberlain posed as the impartial statesman, standing high above party politics. Thus, the 4th February, 1896, he writes, in an

official despatch, that "England, in the Convention of 1884, has recognised the Transvaal as a free and independent State in all matters of interior economy." With the very mild punishment of the filibusters, the danger of any one of them telling tales out of school passed away. Chamberlain at once altered his tone. He summoned President Kruger to London in order to discuss the proposals of the Colonial Office as to the reforms in the Transvaal. Kruger emphatically refused to comply, and Chamberlain next obstinately insisted on the maintenance of the suzerainty clause. Kruger replied with a request that Article 4 of the 1884 Convention, upon which Chamberlain based his claims of England's over-lordship, might be abrogated.

It had long been clear to President Kruger that England meant business, and he quietly made his preparations. After having, in March, 1896, made sure of the support of the Orange Free State, he resolutely and cautiously began his preparations for the defence of the country. The capital, Pretoria, was made into a modern fortified camp; Johannesburg, the centre of the Uitlander population, was dominated by a kind of citadel. Krupp, Creusot, and Mauser furnished enormous quantities of weapons of the latest type. All this was treated in England with the same sovereign contempt with which France, in 1870, received the warnings of Colonel Stoffel. The result, at any rate at the beginning, was much the same.

In the meantime Chamberlain unremittingly pursued his policy of political chicanery. At the end of 1897 he discovered a breach of the treaty obligations in the fact that the Transvaal had joined the Geneva Convention without England's sanction. Next followed the demand that bills of exchange, invoices, and so on, should be in English instead of in Dutch—the national language. Kruger maintained an immovable calm. In spite of the opposition of a strong party of ultra-Boers, he adopted careful and clear-sighted measures to further the wishes and requirements of the mining community. This gained him the approval of the more reasonable of the Uitlanders both in the Transvaal and at the Cape. His re-election by a commanding majority to the Presidency, and the election of the Afrikander, Schreiner, in place of the Englishman, Sprigg, were clear indications of the change of public opinion in South Africa.

After the failure of an attack on the dynamite monopoly of the Transvaal Government, in which the Chamberlain family was commercially interested, a minor police affair afforded a welcome excuse for further interference. This affair originated in the shooting of an Englishman, when in custody, by a Transvaal policeman. This matter was inflated to the dimensions of a State question. An address, signed by 21,000 people, was sent to the Queen of England, stating that their lives were in danger, and praying for protection. Although a counter-address, signed by 25,000 Uitlanders, declared this to be absolutely unnecessary, Chamberlain made use of the occasion to commission one of his creatures, Milner, the Governor of the Cape, to enquire into the matter. Milner naturally reported that it was high time for decisive action. Unless England was prepared utterly to surrender her prestige in South Africa, she must show

herself able to help the oppressed Englishmen in the Transvaal to their rights.

Chamberlain next proposed a conference between Kruger and Milner, and this took place on the 31st May at Bloemfontein.

Six Blue Books, C. 9,345, 9,404, 9,415, 9,518, 9,521, and 9,530 deal, with this remarkable conference and its results.

The conditions dictated by Chamberlain, with which Milner entered upon the conference, were purposely so framed that even their authors regarded them as impossible to discuss. No wonder, then, that Milner, was disappointed when Kruger willingly agreed to discuss the proposals, and contented himself with a request for some modifications.

The principal point contested was the English proposal that the Uitlanders should receive a vote after a residence of five years and naturalisation ; the latter without renouncing their previous nationality ; and this law was to be retrospective. Kruger declared that an *imperium in imperio*, such as must result from the English proposition, would never be accepted by the Volksraad. Neither was he to be shaken as to the form of the oath of naturalisation. On the other hand, however, he offered to reduce the period of residence required to qualify for voting from fourteen to seven years. As to the other contested points, he proposed to refer them to Switzerland as an arbitrator. This proposal was proudly declined. No arbitration, except perhaps that of a private judicial commission, could be admitted between England and the Transvaal.

Milner went so far as to fall foul of the provision that men who had been convicted and suffered a degrading punishment were to be ineligible to become burghers. He sent a confidential telegram to Chamberlain to say that "this proviso would absolutely exclude four principal members of our Reform Committee in Johannesburg." (Blue Book, 9,415, No. 48.)

Contrast with this President Kruger's dignified report to the Volksraad on the results of the Conference :—

"Our adversaries have given us nothing ; we have given up to them half of our rights. They are not content, and perhaps they will declare war. If we gave them more we should give up our independence, and have thieves and robbers among our burghers. Our enemies do not want the right to vote, they want our country. The Lord has always protected our liberty : He will not suffer us to lose it " (9,415/41).

Three days after the close of the Bloemfontein Conference, at which the *status quo ante* was solemnly proclaimed, the Transvaal Government entered upon the consideration of Milner's counter-proposal relating to a private Commission of Arbitration. This "Arbitration Tribunal" was to consist of a representative of each nation, with power to choose a third member ; this third member was not to belong to either nation.

To this frank offer Milner replied, after a lapse of fourteen days, that, although this was his own proposal, he could not recommend it to the British Government (9,518/4, App. I.). It was not till five weeks later that Chamberlain replied, withdrawing from his first offer (9,518/10) ; he declared that Milner was quite right to refuse, as England could not tolerate the introduction of a foreign element, in the person of the

President of the Commission. In other words, the President must be an Englishman too!

Even when Kruger, in order still further to meet the views of the English Government, offered to increase the representation of the mining industry in the Volksraad from three to seven, and afterwards to ten members (out of thirty-six), the Government did not condescend to accept this offer. Neither would they be satisfied with the reduction of the voters' property qualification from £200 to £100, and finally to £50. In the meantime, these very modest and reasonable proposals of Kruger's had been passed by the Volksraad on 25th July, 1899, and had become law.

Chamberlain treated this proceeding as a diplomatic insult. As Parliament did not sit after the end of July, he had a free hand to carry out his scheme in earnest. He quietly directed the despatch of troops to South Africa, and preparations for war in Natal and Cape Colony.

In answer to enquiries by Mr. Steyn (15th August, 1899, 9,521/24) and Kruger (12th September, 1899, 9,521/28), as to the meaning of the massing of troops on the border, Milner replied to the first-named, assuring him, in spite of the patent facts, that there was no truth in the story; and, further, that it was not a matter for surprise that England should take military precautions in face of the Transvaal war preparations. In reply to Kruger, he enquired what massing of troops was referred to. All British troops in the Colony were there to represent British interests. At the same time Milner demanded the revision of the franchise law by a mixed commission of Englishmen and Boers, and the omission from the draft for the new Transvaal Constitution (the Grondwet) of the article rendering inhabitants other than burghers liable to be called upon to fight in defence of the country. He also again raised the old question of the suzerainty (9,521/36).

In his anxiety for peace, Kruger went so far as to promise, on 21st August, 1899, to recommend all the articles proposed by England at the Bloemfontein Conference for sanction by the Volksraad, on condition that the suzerainty question should be dropped once for all (9,521/36).

Chamberlain declared on 28th August (9,521/43) that the British Government could not under any circumstances divest itself of a right vested in it in virtue of the Convention of 1884. In order to decide the minor questions, Chamberlain proposed, instead of a Court of Arbitration, to set up a British Commission, with the British Chargé d'Affaires at the head of it. Kruger was already aware of Chamberlain's real object, and neither the shamelessness of these proceedings nor England's preparations for war were necessary to open his eyes. He and his colleague Steyn no longer hesitated to draw their own conclusions. Once more the leading factories in Germany and France, and even in England itself, began to despatch cargo after cargo of guns, rifles, and ammunition. To the Transvaal alone 149,000 rifles were sent. (Blue Book 9,530, page 9.)

In consequence of Chamberlain's curt refusal, Kruger altogether withdrew his offer of the 21st August; but with the wise intention of clearing

himself in the eyes of the world from any suspicion of complicity in causing the war, he again took up Chamberlain's former proposal of the revision of the franchise, although this was, strictly speaking, an interference in interior affairs, and a breach of the 1884 Convention. Kruger only stipulated that this yielding to the British demands was not to form a precedent. Chamberlain replied that England could not bind herself by any such stipulation. He further demanded a revision of the franchise by a British Commission, on the basis of Kruger's last proposal, which had been withdrawn after meeting with a refusal. In a not very happily phrased note, dated the 16th September, and signed by Reitz (9,530/7), the Transvaal adhered to its former contention, and ventured to hope that "the English Government would give up its system of continually inventing fresh and more stringent demands" and would content itself with what Chamberlain himself had required, which the Transvaal was now prepared to concede.

On the 22nd September, Chamberlain expressed his regret that the Transvaal Government had not seen their way to accept his very moderate (!) and conciliatory (!) demands. He pointed out that the negotiations had now been protracted for four months. (This of course was the fault of the Transvaal !)—"The British Government is now constrained to re-consider the whole matter, and to formulate its final proposals." This was a trifle too much.

On the 8th September, the Volksraad at Pretoria had already unanimously resolved (9,530/2):—"That the Volksraad regrets the massing of English troops on the frontier, and declares that in the event of war no blame can attach to the Transvaal."

On the 19th September, as the first British troop train with the 2nd Lancashire Regiment was starting from Cape Town for Kimberley, Milner assured President Steyn, with protestations of unalterable friendship, that these measures of precaution were in no way directed against the Orange Free State. Steyn replied on the same day, in terms too plain to be misunderstood, that:—"He could see nothing in the differences between the States to render necessary a resort to arms. But if England continued to push forward troops on the frontier, which threatened the Free State as well as the Transvaal, then he would be unable to guarantee, in spite of all he could do, that this would not give rise to wide-spread excitement in the country. The Orange Free State Government must therefore decline to be responsible for any unwelcome consequences."

This was plain enough. But for the next few days Chamberlain continued to overwhelm Steyn with pious warnings and justifications, until, on the 28th September, the position was clearly defined by the resolution of the Free State Volksraad (9,530/18). "The Volksraad declares that no *casus belli* exists. But if England begins a war against the Transvaal, then this will morally be a war against the whole white population of South Africa, fatal and criminal in its consequences. The Orange Free State will truly and faithfully do its duty to the Transvaal

and will carry out the political obligations to which the States are bound by mutual treaty, come what may."

On the previous day the Transvaal Government seems to have adopted measures which denoted a state of war; the burghers were called to arms, and all inns closed. No Kaffirs were to be allowed in the streets after 6 p.m., and no whites after 9 p.m.

Milner maintains that he reported these significant proceedings in a despatch dated the 4th October. But a foot-note in Blue Book (9,520/46) remarks:—"Not yet received in Colonial Office." (!)

On the 29th September all railway traffic on the Natal-Transvaal frontier was stopped. The postal telegraphs were still working.

On the 30th September Kruger requested the British Chargé d'Affaires in Pretoria, Conyngham Greene, to urge his Government to put forward the final proposals already referred to by the 2nd October at latest.

Chamberlain replied on the 1st October that they would be ready in a few days (9,530/29). As up to the evening of the 2nd October no answer from the British Government had been received in Pretoria, Kruger dissolved the Volksraad *sine die*. Quietly and gravely the assembled members dispersed, after the President had established the fact that England desired war (9,530/32).

On the same day Steyn announced that, owing to the intense uneasiness which prevailed throughout the country as a consequence of the massing of English troops both east and west, he had called out the burghers (9,530/31).

On the 3rd October the Boers seized a gold convoy at the frontier (9,530/37).

The men at the head of affairs in England now for the first time began to realise that the Boers were in earnest, and they were alarmed to find that England was not yet prepared.

The correspondence between Steyn and Milner from the 3rd to the 9th October (9,530/34, 38, 40, 44), must, therefore, be considered as an attempt to gain time. According to these letters, the intentions of England were most peaceful; it was hoped that Steyn would still consent to arbitrate; the massing of British troops was only a measure of precaution necessitated by the Transvaal armaments, and so on.

But Steyn relentlessly tears off Milner's mask (9,530/52). "It is indispensable, before any negotiation can be entered on, that England must withdraw her troops from the frontier, and not allow the reinforcements now at sea to land. When, on the 27th September, he had first protested against the massing of English troops, not a single Boer was under arms. That this was no longer so was due to their experience of 1895 (Jameson). The military preparations of both Republics were, therefore, necessary in self-defence."

On the same day, the 9th October, the Transvaal despatched its Ultimatum. In view of the importance of this last diplomatic note (9,530/53), it appears advisable to give the full text, especially as it sums up the whole course of the previous fruitless negotiations:—

"The Government of the South African Republic is constrained again to draw the attention of the British Government to the Convention of 1884. Article 14 of this Convention invests the white population of the Transvaal—that is, all persons except natives subject to the law of the land—with the following rights:—

"*a.* Full liberty to enter the Transvaal with their wives and families, to travel and to live where they please.

"*b.* The right to rent or to possess houses and factories.

"*c.* The right to trade, for themselves and their agents.

"*d.* Exemption from all taxes, general or local, whether applicable to themselves or to their property, trade, or manufactures, except such taxes as are also applicable to the burghers of the Republic.

"These, and no more, are the rights which the British Government reserved on behalf of the Uitlanders in the said Convention. Only an infraction of these rights can give the British Government any ground for diplomatic representations or for intervention. The right to decide all other questions relating to the status and rights of the Uitlanders is by the said Convention expressly reserved to the Transvaal Government and the representatives of the Transvaal people and to them alone.

"Questions relating to the franchise and right of representation, and to the admission of Uitlanders to the Volksraad, are included in this reservation. On these questions the Transvaal Government has entered into friendly negotiations with the British Government without in any way admitting the right of the latter to intervene. This friendly attitude was constantly borne in mind by our Government when framing the Bills relating to the right of voting and the representation of Uitlanders in the Volksraad, which Bills have now become law. But on the part of the British Government the attitude of friendship has been gradually replaced by a threatening tone, giving rise to widespread excitement among our people, and creating a situation of great tension. Finally, in their note of 25th September, 1899, the British Government broke off the friendly exchange of views on the subject, and announced that they must now state their own proposals for a final settlement. This Government can only regard such an announcement as a fresh breach of the Convention of 1884, which Convention gives the British Government no right to settle on her own account any question which is exclusively an internal question subject to decision, and already decided, by this Government.

"In view of the strained situation and of the losses and interruptions occasioned to trade, it was earnestly desired to come to an agreement. But up to the present moment the 'final proposals' which were ostentatiously announced have not reached us.

"During the friendly negotiations the British Government went so far as to increase their troops by reinforcements on a large scale massed on our frontier.

"In view of certain events in the history of our Republic, which it is unnecessary to insist upon, this Government was obliged to consider this massing of troops on our frontier as a men to the independence of

the South African Republic, the more so as we were aware of no circumstances which could necessitate the assembly of such a large number of troops in South Africa and in immediate proximity to our border. A question referring to this matter was met, to our great astonishment, with a veiled suggestion that an attack was meditated from our side. At the same time mysterious possibilities were hinted at which strengthened our belief that the independence of the Republic was menaced.

"We were, therefore, constrained in self-defence to call a portion of our burghers to arms, in order to be in a condition to meet the said possible developments.

"Your Majesty's illegal intervention in the internal affairs of this Republic—an intervention which is contrary to the terms of the Convention of 1884—and, following this, the extraordinary massing of troops on our border, has created an intolerable state of affairs. It is the duty of our Government, in the interests not only of this Republic but of all South Africa, to put an end to this situation as soon as possible, and to strive earnestly to relieve this state of tension. We, therefore, beg Your Majesty to favour us with assurances on the following points:—

"1. That all points in dispute shall be settled by arbitration or otherwise by peaceful means.

"2. That the troops on our frontiers shall be withdrawn.

"3. That within a space of time to be agreed upon all reinforcements which have arrived in Africa since 1st June shall be removed from the country. And as regards this point, this Government pledges itself that no attack shall be made or hostilities commenced against any part of the British possessions within the specified time; and that if the British Government agree to this, the armed burghers of our State shall also be withdrawn from the frontier.

"4. That Your Majesty's troops, which are now on the high seas, shall not land in any South African port.

"This Government must press for an immediate reply in the affirmative to the above four requests, and they earnestly beg Her Majesty's Government to forward said reply on or before 11th October, 1899, not later than five o'clock in the afternoon. And we must add that, in the unlooked-for event of a satisfactory answer not being received within the specified time, we should, to our deep regret, be constrained to consider Your Majesty's behaviour as a formal declaration of war; and further that we cannot hold ourselves responsible for the resulting consequences, and that any further movements of troops towards our frontier within the specified period would also be considered a formal declaration of war."

On the 10th October, 1899, at 10.45 p.m., Chamberlain telegraphed to Milner (9,530/57):—"Her Majesty's Government acknowledges with deep regret the receipt of the peremptory demands of the South African Republic. In reply thereto, will you be pleased to inform the Govern-

ment of the South African Republic that the conditions put forward by them are such as Her Majesty's Government is unable to discuss."

Three hours previously, at 7.30 p.m., the British representative in Pretoria had been instructed to demand his passports simultaneously with the handing in of the British reply (9,530/56).

The state of embarrassment into which the statesmen at the head of affairs in England were thrown by the Ultimatum, is shown by a last desperate effort of Milner's to win over at least President Steyn to his side. To an enquiry addressed to him, whether the action of the Bloemfontein Volksraad in taking part with the Boers had his personal approval and support, President Steyn returned the following drastic answer:—

"The arrogant and unjustifiable policy and conduct of Her Majesty's Government, in dictatorially intervening in purely internal affairs of the South African Republic, in open breach of the Convention of 1884—and further, in proceeding to warlike preparations, and even to actual hostilities, in spite of our well-meant friendly efforts—this policy and conduct indubitably constitute an unjust attack upon the independence of the South African Republic, and leaves no course open to our State but to adhere honourably to our treaty with the Transvaal. I therefore beg to intimate that our Government, forced thereto by the conduct of Her Majesty's Government, is resolved to carry out the instructions of the Volksraad."

This rebuff was a painful surprise for Chamberlain, as is shown by the last document but one, No. 62, in Blue Book 9,530:—"It appears from this" (he telegraphs on the 12th October to Milner) "that the Orange Free State has finally thrown in its lot with the South African Republic." What "appeared" to this statesman had been well known to the rest of the world since the 27th September at latest. His experience was much the same as that of France in 1870 in the matter of the South German States.

Previous publications relating to the South African War have touched either but slightly or not at all on the preliminary diplomatic history of the war. In spite of the space taken up by this mass of matter, I have therefore presumed that the readers of the *Jahrbücher* will welcome a connected and authentic account of the events which led up to the war—or, to quote a recent saying of Mommsen's, of the "Pretexts for the War,"—and the more so, as the coming peace negotiations will be based upon the same facts. No one will find it difficult to decide from the foregoing documents, published by the English diplomats themselves, on which side the right lies. And the sympathies of the whole educated world should be, and must be, with the side which is in the right.

(*To be continued.*)

NAVAL NOTES.

HOME.—The following are the principal appointments which have been made:—Rear-Admiral—Sir W. Dyke Acland, Bart., to be Second-in-Command of Channel Squadron. Captains—R. H. Stokes to "Eclipse"; E. G. Shortland to "Narcissus"; S. H. Carden to "Immortalité"; R. C. Prothero, C.B., to "Pembroke"; H. M. Tudor to "Cressy"; H. H. Dyke to "Melampus"; W. Wilson to "Asia"; A. W. Chisholm-Batten to "Resolution"; G. Langley to be Captain Superintendent of Sheerness Dockyard; S. Rolleston to "Nile." Commanders—E. P. Jervoise to "Nymphe": E. H. Smith to "Pegasus."

Rear-Admiral Sir W. Dyke Acland, Bart., who relieves Rear-Admiral A. B. Jenkings as Second-in-Command of the Channel Squadron, hoisted his flag at Devonport on the 6th inst. on board the "Magnificent." The second-class cruiser "Doris," bearing the flag of Vice-Admiral Sir R. Harris, K.C.B., K.C.M.G., arrived at Plymouth from the Cape on the 9th ult. and paid off at Devonport on the 31st ult. The first-class torpedo-gunboat "Halcyon," lately returned from the Mediterranean, paid off at Devonport on the 7th ult. The second-class cruiser "Flora" arrived from South-East Coast, on being relieved by the "Cambrian" as senior officer's ship, she will pay off at Devonport. The second-class cruiser "Thetis" arrived at Plymouth on the 16th ult. from the Cape, and will pay off at Chatham. The sloop "Beagle" commissioned on the 21st ult. for the Cape station at Portsmouth; on the same day the third-class cruiser "Perseus" commissioned at Chatham to relieve the first-class gun-boat "Salamander" in the Mediterranean, while the third-class cruiser "Porpoise" also arrived at Spithead from Australia, and will pay off at that port, and the first-class gun-boat "Pheasant," lately returned from the Pacific, paid off at Devonport. On the 24th ult. the third-class cruiser "Barrosa" paid off at Devonport. The new first-class armoured cruiser "Cressy" commissioned on the 28th ult. at Portsmouth for the China station, and she should have left England before this, but serious defects in her steering apparatus have been discovered, which will probably delay her six or eight weeks. The third-class cruiser "Magicienne" arrived at Plymouth on the 29th inst. from the Cape, and will pay off at Devonport. The second-class cruiser "Eclipse," commissioned at Chatham on the 30th ult. for service on the China station, where she will relieve the second-class cruiser "Hermione"; the same day the first-class gun-boat "Peacock" arrived at Plymouth from China. A new departure has been made in the gunnery training system by the commissioning on the 21st ult. of the armoured cruisers "Narcissus" and "Immortalité" at Portsmouth and Chatham respectively as sea-going tenders to the Gunnery Schools at those ports: a sister ship, the "Undaunted," will also, as soon as ready, be similarly commissioned at Devonport as tender to the "Cambridge."

Steam Trials.—The new first-class armoured cruiser "Sutlej" has completed her steam trials satisfactorily.

The principal results of the series of trials, at one-fifth, four-fifths, full power, and the Admiralty requirements respectively, are as follows:—

I.H.P.	Knots speed.	Coal consumption.
4,679	14·03	—
16,604	20·628	1·9 lbs.
21,261	21·77	2·3 lbs.
21,000	21	—

At the Admiralty steam trial off Plymouth four runs at 18 knots were made on the deep-sea course. With H.P. developed up to 9,755, a mean speed of 18·129 knots was made for the four runs: the steam pressure in the boilers was 249 lbs.; vacuum at the engines, 26·7 inches: and revolutions of both starboard and port engines, 97·9. The whole result was considered most satisfactory.

At her eight hours' full-speed trial the mean results were:—Steam in boilers, 280 lbs.: steam at engines, 240 lbs.; revolutions, 122: air pressure in stokehold, ½ inch: I.H.P., 21,261: coal consumption, 2·3 lbs. per I.H.P. per hour: speed, 21·77 knots, which was in excess of the contract by more than half a knot, and slightly better than that of the "Cressy," her sister ship. On the completion of the speed trials, the starting and circling trials were carried out.

The new first-class armoured cruiser "Aboukir" has also completed her trials. At her thirty hours' coal-consumption trial, at one-fifth her power, there were 280 lbs. of steam in the boilers, and with the engines developing 4,591-I.H.P., the revolutions were 74 starboard and 75 port, the speed being 14·4 knots on a coal consumption of 1·9 lbs. per unit of H.P. per hour. During her trial at four-fifths her power, which, owing to fog, was reduced from thirty to twenty-six hours, the ship drew 25 feet 9 inches forward, and 26 feet 9 inches aft, the whole of the thirty boilers were in use, but there was no air pressure, and the fans were not required: there was a steam pressure of 248 lbs. at the boilers, and 225 lbs. at the engines, and the vacuum both starboard and port was 26½ inches; the engines worked evenly, the revolutions being 114·3 starboard and 114·2 port, and the total collective I.H.P. was 16,274, which gave a speed of 20·42 knots, while the coal consumption was 1·77 lbs. per unit of H.P. per hour. Before starting on her final trial, without replenishing her bunkers, she took in water ballast to restore her draught to 25 feet 9 inches forward and 26 feet 9 inches aft, and got under way at 4.45 a.m. She had worked up her power by 6.15, when the trial actually began, and the ship steamed as far as the Eddystone and back to Spithead: the steam pressure in boilers was 285 lbs., and the vacuum was 26·3 inches starboard and 26 inches port: the revolutions were 123·1, starboard and 123·3 port, and the I.H.P. was 21,352: the mean air pressure was ·27 inches, and the speed by patent log 21·604. The coal consumption worked out at 1·84 lbs. per unit of H.P. per hour.

The new first-class battle-ship "Bulwark" has also completed her steam trials satisfactorily. At her thirty hours' run at one-fifth of her total I.H.P. the following were the mean results:—Steam in boilers, 227 lbs.: steam at engines, 223 lbs.: revolutions, starboard 65·7, port 66·3: vacuum, starboard 27·5, port 27·5: I.HP., starboard 1,622, port 1,552—total, 3,174: coal consumption, 1·78 lbs. per I.H.P. per hour: speed, 11·2 knots. At her thirty hours' trial at four-fifths power the mean results were:—I.H.P., starboard 5,987, port 5,768—total, 11,755: steam in boilers, 257 lbs.: steam at engines, 240 lbs.: vacuum, 27 inches: coal consumption, 1·8 lbs. per I.H.P. per hour: revolutions, 101: speed, 16·8 knots. The eight hours' full-power trial was also satisfactory, and thus completed a series of trials which have been uniformly successful. The mean results were:—Steam in boilers, 281 lbs.: steam at engines, 258 lbs.: vacuum, starboard 26·4 inches, port 26·3 inches: revolutions, starboard 109·6, port 110: I.H.P., starboard 7,695, port 7,658—total, 15,353: coal consumption 1·83 lbs per I.H.P. per hour: speed 18·15 knots.

Launches.—The new first-class armoured cruiser "Euryalus," the last of the type to which the "Cressy," "Aboukir," "Hogue," Sutlej," and "Bacchante" belong, was launched on Monday, 20th ult., from the yard of Messrs. Vickers, Sons, and Maxim, Ltd., at Barrow. She is 440 feet long, 69½ feet beam, and 26 feet 3 inches draught of water. She carries 1,600 tons of coal. For protection she has, along her broadside, armour 6 inches thick, made and hardened at the company's Sheffield works. The main armour extends for 230 feet on the central part of the ship, and is 11 feet 6 inches deep, with armoured bulkheads 5 inches thick extending across the ship at the extremities, forming with it a citadel or enclosed battery, 230 feet long, within which are all the guns, machinery, etc. The armament consists of two 9·2-inch 28-ton guns, one forward and

one aft: twelve 6-inch Q.F. guns, fourteen 12-pounder Q.F. guns, with eleven small Q.F. and machine guns. The two large guns are being provided by the Vickers Company with mountings, before leaving the Barrow works, and with these it is expected that they will easily maintain a continuous fire of 3 rounds per minute. These gun mountings are of a new type, and are arranged to be worked by hand as well as by hydraulic power. Each mounting is effectively protected by a special steel shield having a weight of 50 tons. The whole revolving weight of the mounting, with its gun, is 120 tons. The ammunition is supplied through armoured tubes from a passage under the protective deck. The propelling machinery, designed and constructed by the Barrow Company, consists of two sets of engines with 4 cylinders, to develop 21,000-I.H.P. when running at 120 revolutions per minute. Each engine drives a single propeller, and the speed of the ship will be 21 knots. Steam is supplied by 30 boilers of the Belleville water-tube type, placed in 4 compartments, which take up 130 feet of the length of the ship; coal bunkers are arranged alongside the sides both below and above the protective deck, as well as across the ship right forward. The "Euryalus" will have 4 funnels and 2 masts, with a top on each mast for carrying search-lights (but no guns) and with the usual semaphores. Her complement of officers and men will be 740.

The shallow-draught twin-screw gun-boat "Teal," built to the order of the Government, was successfully launched on the 18th ult. from Messrs. Yarrow's new works at Poplar. The "Teal" and also the "Moorhen" (a sister ship) are constructed on a system which enables a large screw propeller to be used in combination with a very shallow draught, of which type of vessel Messrs. Yarrow & Co. have made a speciality. The draught of these gun-boats, fully equipped, is estimated at 2 feet 3 inches, and the speed at 13 knots. All the vulnerable parts, such as the machinery space, etc., are completely encased by chrome steel rifle-proof plates. The vessels are constructed in floatable sections, a system introduced by the Poplar firm many years ago, by which means the tedious process of riveting together and launching abroad is entirely avoided, the various sections being simply lowered into the water and bolted together. The launch took place with steam up, and immediately after the vessel was afloat a short preliminary run was made.

The Strength of the Navy.—A Parliamentary paper has been issued comprising the following return of the numbers of commissioned officers, subordinate and warrant officers, petty officers, men, and boys of the various branches of the Royal Navy borne on 1st April, 1900, excluding pensioners and reserves; and a similar return of the numbers of the commissioned, warrant, and N.C. officers and men of the Royal Marine forces:—

Executive Branch.—Commissioned officers, 1,892: subordinate and warrant officers, including masters' assistants and cadets, 1,974 (no masters' assistants are included in this number, as officers of that rank are no longer borne in the Navy); petty officers, 7,070; men, 28,875; boys, 9,411—total, 49,222.

Engineer Branch.—Commissioned officers, 889: subordinate officers—*i.e.*, engineer students, 196; warrant officers, 69; chief and other engine-room artificers, 3,051; stokers—petty officers, 4,475; men, 17,279—total, 25,959.

Other Branches.—Commissioned officers, 916; subordinates and warrant officers—*i.e.*, clerks, assistant clerks, and carpenters, 347 (including 13 head schoolmasters); petty officers, 4,947: men, 5,727: kroomen, 518; boys, 380—total, 12,865.

Royal Marines.—Commissioned officers, 443; warrant officers, 39; non-commissioned officers, 2,179; men, 15,800—total, 18,461.

Grand total—106,507.

FRANCE.—The following are the principal promotions and appointments which have been made: Vice-Admiral—A. A. Gervais to command of Manœuvre Fleet. Rear-Admiral—J. E. Merleaux-Ponty to be Chief of the Staff to Vice-Admiral Gervais. Capitaines de Vaisseau—C. T. Rouvier to Rear-Admiral; G. M. Surcouf to "Bretagne"; M. P. Landry to command of Submarine Defences at Cherbourg; J. C. Gaschard to "Jurien de la Gravière": L. H. Thomas to "Amiral Duperré." Capitaines de Frégate—Le Pelletier des Ravinières to Capitaine de Vaisseau; R. P. Le Moine des Mares to "Lance": H. F. Suisse to "D'Estrées."—*Journal Officiel de la République Française.*

Vice-Admiral Gervais has again this year been appointed to the command of the Manœuvre Fleet, made up of the combined Mediterranean and Channel Squadrons; he will leave Toulon for Algiers on the 27th inst. in the first-class battle-ship "Bouvet," on board which ship he will fly his flag during the manœuvres, hoisting it on the 28th on his arrival at Algiers. Rear-Admiral Servan, the newly-appointed Commander-in-Chief of the North Atlantic Division, hoisted his flag on board the first-class cruiser "Tage" at Brest on 6th May. Rear-Admiral Merleaux-Ponty, commanding the Tunisian Naval Division, who last year served as Chief of the Staff to Vice-Admiral Gervais during the manœuvres, has been selected to perform the same duties again this year. Vice-Admiral Ménard, the Commander-in-Chief of the Northern Squadron, who had been in an unsatisfactory state of health for some time, has now so far recovered that he has been able to return on board the "Masséna" (his flag-ship), and has rehoisted his flag in command of the squadron. Rear-Admiral de Bausset, Second-in-Command of the Squadron of the North, has been sent to the naval hospital at Brest, where he will have to undergo an operation; it is doubtful if he will be able to rejoin his flag-ship, the "Formidable," before the squadron leaves for the Mediterranean.

The coast-defence battle-ship "Requin" commissioned at Cherbourg on the 15th ult. with a reduced crew for her trials, after her reconstruction, which has much improved her value as a fighting unit: among other changes, Niclausse water-tube boilers have been substituted for her cylindrical ones, all superfluous wood fittings removed and steel decks substituted, in addition to changes in her armament, which have already been reported.

The Ateliers et Chantiers de la Loire at Nantes have been commissioned by the Minister of Marine to proceed with the construction of two new torpedo-boat destroyers of the Normand type, which are to be called the "Mousquet" and "Javeline": they will have a displacement of 303 tons, be 164 feet long, and have engines developing 6,300-I.H.P., which are to give a speed of 28 knots.

The two coast-defence battle-ships, "Amiral-Tréhouart" and "Bouvines," which are proceeding with the Squadron of the North to the Mediterranean, will, according to present arrangements, after the manœuvres be stationed at Bizerta, where they will form a defence squadron, with the "Indomptable," "Caïman," and "Terrible," and the second-class battle-ship "Hoche" as flag-ship. The "Valmy" and "Jemappes" had to supply the men to complete the "Bouvines" and "Amiral-Tréhouart" to their sea-effectives, with the result that they themselves have been placed in the Reserve; but it is believed that next year they will, with the "Requin," form a new squadron, whose headquarters will be at Cherbourg.

The Manœuvre Fleet.—The Manœuvre Fleet will, as last year, be again made up of the combined Mediterranean and Northern Squadrons, composed as follows:—

Mediterranean Squadron.

First-class battle-ships—"Bouvet" (flag-ship of Vice-Admiral Gervais, in supreme command), "Saint Louis" (flag-ship of Vice-Admiral de Maigret), "Charlemagne," "Gaulois," "Charles Martel" (flag-ship of Rear-Admiral Aubry de la Noë), "Jauréguiberry," "Brennus."

First-class armoured cruisers—"Pothuau" (flag-ship of Rear-Admiral Caillard) "Chanzy," "Latouche-Tréville."

Second-class cruisers—"Du Chayla," "Cassard."

Third-class cruisers—"Galilée," "Lavoisier," "Linois."

Torpedo-cruiser—"Condor."

Torpedo-boat destroyers—"Dunois," "Hallebarde," "Espingole," "Pique," "Epée."

Torpilleur-de-haute-mer—"Cyclone."

The Squadron of the North.

First-class battle-ships—"Masséna" (flag-ship of Vice-Admiral Ménard), "Carnot," "Amiral-Baudin," "Formidable" (flag-ship of Rear-Admiral De Bausset).

Second-class battle-ships—"Hoche," "Courbet."

Coast-defence battle-ships—"Amiral-Tréhouart," "Bouvines."

First-class armoured cruisers—"Bruix" (flag-ship of Rear-Admiral Gourdon). "Dupuy de Lôme."
Second-class cruiser—"D'Assas."
Third-class cruiser—"Surcouf."
Torpedo-boat destroyers—"Cassini," "La Hire," "Fauconneau," "Durandal," "Yatagan."

Making a total of eleven first-class battle-ships, two second-class, and two coast-defence battle-ships; five armoured, three second-class, four third-class, and one torpedo cruisers, with ten destroyers and one torpilleur-de-haute-mer—a grand total of thirty-nine ships, exclusive of the *Défenses-Mobiles*. The composition of the Manœuvre Fleet is much the same as last year, except that there is one battle-ship more and two coast-defence vessels less: the number of cruisers and light vessels remains the same, but all the torpilleurs-de-haute-mer, except one, have been replaced by destroyers.

The Squadron of the North leaves Brest on 22nd inst., and will arrive at Tangier on 1st July, leaving again on the 3rd to join Vice-Admiral Gervais at Algiers. During the passage to the Mediterranean tactical exercises will be carried out, and, weather permitting, the squadron will coal at sea, two colliers carrying 3,000 tons of coal having been chartered for the purpose, which will accompany the squadron.

The Mediterranean Squadron will leave Toulon for Algeria on 23rd June, one division proceeding to Philippeville and the other to Algiers, re-uniting again at Algiers on 28th June. Since the 25th ult. the Commanders-in-Chief of both squadrons have been in constant communication with Admiral Gervais relative to the manœuvres. The manœuvres between the two squadrons and the *Défenses-Mobiles* of Algiers, Tunis, and Corsica, will last to the 9th July. The fleet then proceeds to Toulon, where it remains until 16th July, during which time the revictualling and coaling of the squadron will be carried out as speedily as possible, in order to test fully the resources of the port; Vice-Admiral Gervais attaches the greatest importance to this test, and every effort will be made to stimulate the spirit of rivalry between the ships to be first completed and ready for sea. The latter part of the manœuvres will consist of tactical exercises between the two fleets, under the personal direction of the Commander-in-Chief; scouting on a new system will, among other things, be carried out on an extensive scale, as the use of wireless telegraphy will largely increase the scouting field of action of cruisers.

Launches.—The submarine vessel "Farfadet" was launched at Rochefort on 17th May: she is one of four similar vessels ordered to be commenced on 27th September, 1899. The designs are by Engineer Maugas, and she has a displacement of 185 tons; length, 41·35 metres (135 feet); beam, 2·90 metres (9 feet). The engines are worked by electricity supplied by accumulators, and should give a speed of 12 knots; the crew will consist of 1 officer and 8 men, and the cost is 800,000 francs (£32,000).

The new submergible-boat "Sirène" was launched on the 4th ult. at Cherbourg; she is of a similar type to the "Narval," but somewhat smaller.

The torpilleur-de-haute-mer "Tramontane" was launched at Bordeaux on the 21st ult.; she has a displacement of 162 tons; length, 45 metres (147 feet); beam, 4·78 metres (15 feet); H.P., 4,400; and a speed of 29 to 30 knots, and carries two 37-millimetre (1·45-inch) guns and two torpedo-tubes.

A similar torpedo-boat, the "Mistral" was launched at Havre on the 4th ult. A first-class torpedo-boat, No. 244, has been built at the arsenal at Saigon, and was launched with great ceremony at that place on 20th April.

Dockyard Notes.—Progress is being made at Brest with the first-class battle-ship "Suffren," and it is hoped she will be ready to begin her trials next year. The new first-class battle-ship "Iéna" is continuing her trials, both steam and gunnery; some experiments were made with her petroleum fuel, changing from coal, with the result that the I.H.P. was raised in a few minutes from 4,000 to 6,500; the trials of her heavy guns have not been so successful, as her turrets do not work satisfactorily, and some further modifications will have to be made: this ship was to have been Admiral

Gervais' flag-ship during the forthcoming manœuvres, but it is quite unlikely that the ship will now be ready for commissioning before the late autumn.

The proposed expenditure on certain harbours was the cause of an animated discussion in the Senate. Particular exception was taken to the proposal to spend 6,000,000 francs (£240,000) in making a canal to connect the Étang de Berre with the sea, with the view of turning that inland lake into a harbour of refuge for merchant-ships. Admiral Rieunier considers that the money might just as well be thrown into the sea, as merchantmen will find much better protection at Marseilles or Toulon than in the new harbour of refuge, which it is not even proposed to fortify. The original sum of 550,000 francs (£22,000) allocated to Corsica has been increased to 6,000,000 francs (£240,000), and thus divided: 1,550,000 francs (£62,000) for the *Défense-Mobile* of Ajaccio; 850,000 francs (£34,000) for the harbours of Bonifacio, Bastia, Ile-Rousse, and Calvi; and, lastly, 3,600,000 francs (£144,000) for Porto-Vecchio.

For Algeria the original sum of 2,000,000 francs (£80,000) has been raised to 12,000,000 francs (£480,000), divided between: Algiers, 3,500,000 francs (£140,000); Mers-el-Kébir, 2,100,000 francs (£84,000); Oran, 2,000,000 francs (£80,000); Bône, 2,600,000 francs (£104,000), while the balance is devoted to increasing the number of semaphore stations and unforeseen expenses.

Exception was taken by certain senators to all these Votes; with regard to making a harbour at Porto-Vecchio, the Minister of Marine pointed out that that port would be a second centre for the *Défense-Mobile*, being on the east coast of the island what Ajaccio was on the west. At certain times of the year one or other of these harbours would be quite sheltered from the prevailing winds, with the result that in bad weather, while one of the divisions of the *Défense-Mobile* might be weather-bound, the other would be able to put to sea. Eventually the different Votes were passed as they stood.

To Encourage Dockyard Employés and Seamen.—M. de Lanessan, the Minister of Marine, proposes to strengthen the Navy by improving the condition of the men of the lower deck by opening a larger future to them, and to place upon a better footing the dockyard employés, giving them bounties to encourage zeal, and allowing the men to have a voice in awarding these. Each operative of the inferior class is also to receive 25 francs for his first child, 30 additional for his second, 35 for the third, and so on. Every category of operatives has been divided into classes, each with a special rate of pay, and advancement from one class to the other is regulated by committees, on which the workmen are represented. They will also take their part in the committees which deal with the recruitment of the *personnel*, and which determine the pay of each new recruit according to his knowledge and experience. It is further proposed to establish professional nautical schools for sons of seamen between the ages of thirteen and fourteen, to whom will be taught everything that a seaman should know, fitting him later on for his work on board, whether it be concerned with mechanics, electricity, gunnery, marksmanship, or torpedoes. These schools are to bring into the lower deck a better class of men, who will form the *élite*, and it will be the object to retain these in the Navy by offering material advantages, proper promotion, and eventually commissioned rank.—*Le Temps* and *Le Yacht*.

GERMANY.—The following are the principal promotions and appointments: Admiral—Thomsen to command at Wilhelmshaven and North Sea station. Rear-Admirals—Büchsel to Vice-Admiral; Geissler for service at Wilhelmshaven. Kapitäns zur See—Breusing to be Chief of the Staff of the Manœuvre Fleet; Borckenhagen to be Chief of the Staff of the First Squadron; Zehl for service at the Ministry of Marine; Truppel to be Governor of Kiau-Chau; Becker to "Blücher"; Westphal to "Kaiser Barbarossa"; Holzhauer to "Weissenburg"; Ehrlich to be Director of the Naval School; von Heeringen to "Wörth"; Friedrich to "Württemberg"; Winkler to "Victoria Louise"; A. Thiele to "Kaiser Wilhelm der Grosse"; Kindt to "Sachsen"; Obenheimer to "Friedrich Karl." Fregatten Kapitäns—Friedrich,

Franz, Brussatis, Stein, Faber, Wallman, and Paschen to Kapitäns zur See; von Dassel to "Olga"; Kalau von Hofe to "Baden"; Hoepner to command of newly-formed Boys' Division; Janke to "Stosch"; Scheibel to "Nymphe"; Reitzke to "Gazelle"; von Bredow to "Hela"; Lautenberger to "Zieten."—*Marine Verordnungsblatt.*

Strength of the Personnel.—According to the Rangliste of the Imperial Navy, corrected up to 8th May, the following are the numbers of the officers and their different ranks on the Active List of the Fleet:—2 admirals, 7 vice-admirals, 12 rear-admirals, 5 captains, 108 commanders, 208 captain-lieutenants, 457 lieutenants, 426 midshipmen, and 200 cadets, showing an increase over last year of 1 vice-admiral, 3 captains, 9 commanders, 12 captain-lieutenants, 40 lieutenants, 20 midshipmen, and 45 cadets. There are further, 1 retired rear-admiral, 12 retired captains, 16 retired commanders, and 2 retired captain-lieutenants employed on special service; while there are 34 captain-lieutenants and 69 lieutenants employed on ordnance and torpedo duties in the various dockyards and coast stations.

The Marine battalions have as their staff:—1 major-general, 2 lieut.-colonels, 6 majors, 31 captains, and 97 lieutenants, being an increase of 1 major-general, 2 lieut.-colonels, 2 majors, 12 captains, and 44 lieutenants over last year. The Engineering staff consists of 1 chief engineer (with the rank of commander), 3 senior staff engineers, 26 staff-engineers, 55 engineers first-class, and 86 engineers: being an increase of 1 chief engineer, 4 staff engineers, 1 engineer (first-class), and 22 engineers: there are also 15 torpedo-engineers attached to the dockyards and torpedo depôts. The Medical Department consists of:—1 medical director-general (with the rank of rear-admiral), 2 inspectors-general, 7 fleet surgeons, 24 senior staff surgeons, 62 staff surgeons, and 80 surgeons and assistant-surgeons, being an increase of 2 fleet surgeons 5 senior staff surgeons, 4 staff surgeons, and 17 surgeons and assistant-surgeons. In the Accountant Department are 13 staff-paymasters, 61 senior paymasters, and 40 paymasters. The Seamen Divisions number:—62 chief warrant officers, 98 warrant officers, and 11,940 petty officers and seamen, with 1,300 boys—a total of 13,400—showing an increase of 2 chief warrant officers, 7 warrant officers, 891 petty officers and seamen, with 300 boys. The Dockyard Divisions number:—218 chief warrant officers, 434 warrant officers, and 7,368 petty officers and men, of whom 563 chief and warrant officers, with 5,872 petty officers and men, form the engine-room *personnel* of the Fleet, which shows an increase of 55 chief and warrant officers, and 660 petty officers and men over last year, with a total increase in the divisions of 60 chief and warrant officers, and 805 petty officers and men. The Torpedo Divisions number:—195 chief and warrant officers, and 2,962 petty officers and men, of which 40 chief and warrant officers, with 1,522 petty officers and men, are of the seamen class, while 155 chief and warrant officers, with 1,440 petty officers and men, are of the engineering branch; there is an increase in this division of 15 chief and warrant officers, and 323 petty officers and men. The Seamen's Artillery Division consists of:—28 chief and warrant officers, with 2,267 petty officers and men, showing an increase over last year of 2 warrant officers and 95 petty officers and men. The Marine Infantry consists of:—196 non-commissioned officers and 1,038 men, as against 161 non-commissioned officers and 1,038 men last year. The total strength of the Navy of all branches stands at 2,134 officers and 28,904 warrant and petty officers and men, or a grand total of 31,038 officers and men, as against 28,204 officers and men in 1900, showing an increase of 2,834 over last year.

The *matériel* of the fleet, including ships under construction, is made up as follows:—Battle-ships, twenty-nine, to be increased to thirty-eight, in accordance with the Navy Act of 1900. Of these there are eight first-class battle-ships completed and eight in different stages of construction; five third-class battle-ships and eight fourth-class; these latter are rated as coast-defence ships.

Twelve first-class large cruisers completed and building, which are to be increased to fourteen; of these there are three armoured cruisers completed, only one of which, however, the "Fürst Bismarck," is a new ship, the other two being really only third-class battle-

ships, twenty-seven years old, while there are three more armoured cruisers building: the other six being protected cruisers, five being quite new ships.

Thirty-two small cruisers to be increased to thirty-eight, of which there are twenty-eight completed and four building, six being quite new vessels, with eight first-class gun-boats, five of which are new.

There are fourteen school and training ships and six special-service vessels. Eighteen torpedo-boat destroyers, with one hundred and nine first-class torpedo-boats, thirty second-class, and one torpedo-depôt ship.

The Estimates for 1901.—The Estimates for 1901 amount to 297,320,172 marks (£14,866,008), as against 222,276,182 marks (£11,113,809) for 1900.

ORDINARY PERMANENT ESTIMATES.

	Proposed 1901.			Voted 1900.		
	Marks.	£	s.	Marks.	£	s.
Imperial Ministry of Marine and Naval Cabinet ...	1,360,620	(68,031	0)	1,196,390	(59,819	10)
Naval Headquarter Staff	122,385	(6,119	5)	—	—	
Observatories, etc.	318,995	(15,949	15)	319,765	(15,988	5)
Station Accounts Department	358,625	(17,931	15)	331,425	(16,571	5)
Legal Department	107,580	(5,379	0)	71,230	(3,561	10)
Chaplains' Department and Garrison Schools	84,206	(4,210	6)	79,862	(3,993	2)
Pay of Officers and Men ...	17,940,239	(897,011	19)	16,527,582	(826,379	2)
Maintenance of Fleet in Commission	19,113,373	(955,668	15)	17,272,790	(863,637	10)
Allowances for Officers and Men	1,173,700	(58,685	0)	1,122,261	(56,113	1)
Clothing	319,791	(15,989	11)	309,386	(15,469	6)
Garrison Administration, etc.	2,490,835	(124,541	15)	2,341,427	(117,071	7)
Lodging Allowance, etc. ...	1,359,109	(67,905	9)	1,267,132	(63,356	12)
Medical Department	1,336,452	(66,822	12)	1,196,600	(59,830	0)
Travelling, Transport, and Freight Charges	2,485,183	(124,259	3)	2,485,183	(124,259	3)
Training Establishments ..	316,384	(15,819	4)	296,519	(14,825	19)
Maintenance of the Fleet and Dockyards	21,621,949	(1,081,097	9)	20,435,062	(1,021,753	2)
Ordnance and Fortification ..	7,268,505	(363,425	5)	6,633,674	(331,683	14)
Accountant-General's Department	553,371	(27,668	11)	501,822	(25,091	2)
Pilotage and Surveying ...	524,874	(26,243	14)	516,010	(25,800	10)
Miscellaneous Expenses ..	992,120	(49,606	0)	852,840	(42,642	0)
Administration of Kiau-Chau Protectorate ...	48,126	(2,406	6)	38,782	(1,939	2)
Total	79,896,422	(3,994,821	2)	73,901,692	(3,695,084	12)

SPECIAL ORDINARY ESTIMATES.

Shipbuilding Programme and Armaments for 1901.

A. Shipbuilding.	Marks.	£
For the construction of the first-class battle-ship "Kaiser Barbarossa" (*A*) 4th and final Vote	2,750,000	(137,500)
The first-class battle-ship "Kaiser Karl der Grosse" (*B*) 4th and final Vote	2,058,000	(102,900)
The first-class armoured cruiser "Prinz Heinrich" (*A*) 4th and final Vote	3,375,000	(168,750)
The first-class battle-ship "Wittelsbach" (*C*) 3rd Vote ...	3,600,000	(180,000)
" " " (*D*) 3rd Vote ...	6,000,000	(300,000)
" " " (*E*) 3rd Vote ...	6,000,000	(300,000)
The third-class cruiser "Thetis" (*C*) 3rd and final Vote ...	1,140,000	(57,000)

SPECIAL ORDINARY ESTIMATES—*contd.*

A. Shipbuilding.	Marks.	£
The third-class cruiser "Ariadne" (*D*) 3rd and final Vote ...	1,140,000	(57,000)
The first-class battle-ship (*F*) 2nd Vote...	6,500,000	(325,000)
" " (*G*) "	6,500,000	(325,000)
First-class armoured cruiser (*B*) "	6,000,000	(300,000)
Third-class cruiser (*E*) 2nd and final Vote	2,640,000	(132,000)
" " "Amazone" (*F*) 2nd and final Vote	2,640,000	(132,000)
First-class gun-boat (*A*) 2nd and final Vote	1,000,000	(50,000)
Division torpedo-boat, second and final Vote	3,440,000	(172,000)
First-class battle-ship (*H*). 1st Vote	300,000	(150,000)
" " (*J*) "	3,000,000	(150,000)
First-class armoured cruiser Ersatz "König Wilhelm" 1st Vote	3,400,000	(170,000)
Third-class cruiser (*G*), 1st Vote	1,300,000	(65,000)
" " (*H*) "	1,300,000	(65,000)
" " (*J*) "	1,300,000	(65,000)
Division torpedo-boats, 2nd and final Vote	2,400,000	(120,000)
For reconstruction of the ships of the "Siegfried" class ...	4,500,000	(225,000)
Total Construction Vote	74,983,000	(3,749,150)

Other Items.	Marks.	£	s.
Armaments of ships...	21,913,000	(1,095,650	0)
Torpedo equipment	3,690,000	(184,500	0)
Dockyard improvements, etc.	61,614,750	(3,080,737	10)
Extraordinary expenditure...	55,223,000	(2,761,150	0)
	142,240,750	(7,122,037	10)

Summary.

	1901. Marks.	£	s.	1900. Marks.	£	s.
Ordinary Permanent Estimates	79,896,422	(3,994,821	2)	73,901,692	(3,695,084	12)
Shipbuilding...	74,983,000	(3,749,150	0)	48,934,000	(2,446,700	0)
Armament of ships ...	21,913,000	(1,095,650	0)	17,986,000	(899,300	0)
Torpedo equipment ...	3,690,000	(184,500	0)	2,615,000	(130,750	0)
Dockyard improvements, etc.	61,614,750	(3,080,737	10)	38,218,490	(1,910,924	10)
Extraordinary Vote for new docks, etc.	55,223,000	(2,761,150	0)	40,621,000	(2,031,050	0)
Total	297,320,172	(14,866,008	12)	222,276,182	(11,113,809	2)

—Etat für die Verwaltung der Kaiserlichen Marine auf das Rechnungsjahr 1901.

Launches.—On the 12th inst., from the Germania Yard at Kiel, the new first-class battle-ship "E" was launched in the presence of the Kaiser, Prince and Princess Henry of Prussia, and the Grand Duke and Duchess of Baden, by the latter of whom the christening ceremony was performed, the ship being named the "Zaehringen." She is one of the "Wittelsbach" class, and is a sister vessel to "G" building at Wilhelmshaven and "F" at Stettin. All three ships have a displacement of 11,900 tons, which is 750 tons more displacement than the five ships of the "Kaiser" class, which were the first of the new battle-ship type to be laid down. They are 393 feet 9 inches long, with a beam of 68 feet 2 inches, and a mean draught of 24 feet 10 inches, and are 16 feet 6 inches longer with 1 foot 4 inches more beam than the "Kaisers." Like those ships the new vessels have 3 screws, but while the "Kaiser" class have engines developing 13,000-I.H.P., giving a speed of 18 knots, the engines of "Wittelsbach" class are to develop 15,000-I.H.P., giving a speed of 19·5 knots. The armament of all ten ships will be the same, viz., four 9·4-inch, eighteen 5·9-inch, and twelve 3·3-inch, all quick-firing, with twenty small Q.F. and machine guns, and five submerged

torpedo-tubes. But while the "Kaisers" have nickel steel armour, the newer ships will have steel armour hardened by the latest Krupp process.

The new first-class battle-ship "D," one of the "Wittelsbach" class, was launched from the Schichau Yard at Danzig successfully on the 6th inst., in the presence of Prince and Princess Johann George of Saxony, the latter of whom performed the christening ceremony, the ship being named the "Wettin."

New Ships and Dockyard Notes.—At Wilhelmshaven.—The first-class battle-ship "Kaiser Friedrich III." was paid off at Wilhelmshaven, and has been taken in hand by the dockyard authorities, to have the defects made good caused by her grounding on the Adlergrund. The outer plating of the double bottom will have to be renewed in many places, but the greatest damage is aft, as the stern-post will have to be replaced by a new one, as it is fractured in two places. The new first-class battle-ship "G," which was laid down last autumn is so far advanced that she is to be launched, according to present arrangements, on the 15th inst. To have completed a first-class battle-ship sufficiently for launching in a little over 7 months from the date of laying her first keel plate is a record of which any dockyard may be proud, and it shows, if any such proof were needed, the high state of efficiency to which the Imperial dockyards have now been brought.

At Kiel.—The new first-class armoured cruiser "B" is to be launched from the Imperial Dockyard on the 22nd inst., most probably in the presence of His Majesty. She is a sister ship to the "Prinz Heinrich," lately launched from this yard, but her armament will be somewhat different, as she will carry four 8·2-inch Q.F. guns in place of the two 9·4-inch Q.F. guns, carried by the last-named ship, but the secondary armament of both ships is almost the same, viz., ten 5·9 inch, twelve 3·4-inch Q.F. guns (ten in the "Prinz Heinrich"), with fourteen small Q.F. and machine guns, with four torpedo-tubes, three of which are submerged. Both ships are nearly 2,000 tons smaller than the "Fürst Bismarck," the first of Germany's new armoured cruisers completed last year, but their engines are to develop 15,000-I.H.P., giving a speed of 20·5 knots, as against the 14,000-I.H.P. of the engines of the earlier ship, which give her a speed of 19 knots. The boilers of all three are water-tube of the Dürr type.

At the Imperial Yard here the dismantling of the fourth-class coast-defence battle-ship "Heimdall," preparatory to her being lengthened, has been commenced. As there is no slip, as at Danzig, the work will have to be carried out in one of the dry docks, and in order that she may not occupy it a day longer than necessary as much preparatory work as possible is being done before she is put into the dock: the opportunity will be taken of the removal of her boilers, which are of the old cylindrical type, to replace them, when she is ready to receive them, with a set of eight Thornycroft water-tube boilers; her wooden decks will also be replaced by steel, which will be covered with linoleum, while all unnecessary woodwork will also be removed. The ship is to be lengthened, like the "Hagen," 27 feet, which will increase her length from 240 feet to 267 feet, and her displacement from 3,500 tons to 4,114: while her machinery with the new boilers is to develop 5,250-I.H.P., instead of 4,500 as formerly, increasing her speed from 14·8 knots to 15 knots, and her coal stowage from 220 tons to 580, which will increase her radius of action from 2,000 to 3,500 miles at 10 knots speed. Her crew will be raised to 297 officers and men from 276, and she will carry provisions and stores for six weeks instead of four. The thickness of the armour on the conning tower will be increased also from 3·2 inches to 7·4 inches of nickel steel, a military mast will be substituted for the pole mast, for signalling purposes, formerly carried, and there will be two funnels instead of one. It is hoped that the work of lengthening the ship will be completed in eight months.

The foundations and the side walls of the new dock No. 5 have now been so far completed under water by means of the large diving bell, which was specially constructed for the work, that the work will now be able to be carried on by the smaller bells, the top of the walls of the dock having been now brought within 9 feet of the surface of the water.

The work of constructing a new torpedo-boat harbour in Wik Bay, south of the mouth of the Emperor William Canal, has now been commenced. The transfer of the torpedo-boat harbour from Düsternbrok to Wik Bay has been necessitated by the fact that the former has become too small, and the torpedo-boats have hampered traffic in Kiel Harbour. The new harbour will be 4 metres deep, and will afford accommodation for ten torpedo-boat divisions, that is, for sixty large torpedo-boats of the latest type.

The German naval authorities have bought the neighbouring ground from the city of Kiel for 300,000 marks, and will erect barracks, a laboratory, and repairing sheds there.

At Danzig.—The work of lengthening the "Beowulf" and "Hildebrand," two more of the "Hagen" class, is now in full swing: the first-named has already been placed on the slip, and will soon be ready to be drawn apart amidships 27 feet, which is effected by means of powerful hydraulic machinery: the "Hildebrand," which is still being dismantled, will, as soon as ready, be hauled up on the adjoining slip.

The new first-class armoured cruiser Ersatz "König Wilhelm," which is to be built at Hamburg at the yard of Messrs. Blohm and Voss, is to be ready for launching in the autumn of 1902, and to be completed for sea in the spring of 1904, the time limit being three years.

The two small cruisers of the "Gazelle" class, which are to be built by the Weser Shipbuilding Company at Bremen, have been designated "G" and "H": a third, designated "J," is to be built at the Howaldt Yard at Kiel: all three ships, under the contract conditions, are to be delivered in the spring of 1903, the time allowed being two years. Of the cruisers of this class, five, viz., the "Ariadne," "Gazelle," "Niobe" "Nymphe," and "Thetis" are ready for service; a sixth, the "Medusa," will not be ready for her trials for some months yet.

Boilers for New Ships.—The Ministry of Marine has, after protracted trials, decided on the following boiler systems for the ships now under construction:—

1. A combination of cylindrical with Thornycroft water-tube boilers for the battle-ship "D," building at the Schichau Yard, Danzig.
2. Schulz water-tube boilers for the small cruisers "Thetis" (Imperial Dockyard, Danzig), "Medusa" (the Weser Yard, Bremen), and the "Amazone" (Germania Yard, Kiel); for the first-class gun-boat "Panther" (Imperial Dockyard, Danzig), and for the coast-guard battle-ships "Heimdall" and "Hildebrand," at present undergoing reconstruction.
3. A combination of cylindrical with Schulz water-tube boilers for the first-class battle-ships "Wittelsbach" (Imperial Dockyard, Wilhelmshaven), "E" (Germania Yard, Kiel), "F" (the Vulcan Yard, Stettin), and "G" (Imperial Dockyard, Wilhelmshaven).
4. Dürr water-tube boilers for the armoured cruisers "Prinz Heinrich" and "B" (both at the Imperial Dockyard, Kiel), and for the armoured cruiser Ersatz "König Wilhelm," building at Hamburg.

Experiments have during the last three months been carried out by the Schichau firm with a new water-tube boiler they have constructed, and which is reported to have given very satisfactory results. It is said to be much simpler than any other water-tube boiler at present in use, to have great steam-producing capacities, to be smokeless and exceedingly economical in its coal consumption, to be much lighter than the Belleville, and to be able to stand rough handling and bad stoking without damage. Full details, however, have not as yet been made public by the firm.

The Training Service.—According to the official returns, there were 470 candidates from all parts of the Empire at the late examinations for entry as naval cadets. Of these 210 were entered as against 155 last year, while there were 74 candidates for the 25 vacancies for students in the Naval Constructor's Department. For the first 6 weeks the cadets and students go through a course of infantry drill, after which they will be sworn in in the presence of the Kaiser. They will then embark on board the different sea-going training-ships for a year's cruise in home and foreign waters, on

returning from which they will have to pass the examination for midshipman. Two hundred and three cadets have lately returned from their first year's cruise. After passing their examination they go for a year's study to the Naval Academy, at the expiration of which they will undergo their principal examination. This is followed by a special course in gunnery, torpedo, and infantry drill, there being an examination at the end of each course. Next comes 2 years' service afloat, during the last year of which the midshipmen are on probation for selection for officer's rank, and if they pass successfully through the ordeal at the end of the time they receive their promotion to lieutenant.

On board the training-frigates "Stein," "Stosch," and "Moltke," 153 cadets have been embarked with 600 boys. On the training-ship "Charlotte," on board which H.R.H. Prince Adalbert of Prussia is making his first cruise, 57 cadets and 230 boys have been embarked.

The number of boys has been so largely increased that it has been found necessary to form a Boy Division. The headquarters will remain as heretofore at Friedrichs-Ort, where the boys will be organised in three companies.—*Neue Preussische Kreuz-Zeitung.*

UNITED STATES.—*Admiral O'Neill's Report.*—The annual report of Admiral Charles O'Neill, Chief of the Bureau of Ordnance, Navy Department, places the Estimates for the fiscal year ending 30th June, 1902, at 7,457,855·75 dollars. Estimates for the new naval magazine near Boston, including purchase of site, is 500,000 dollars. While a large volume of work has been performed at the Naval Gun Factory and a great number of guns are in process of manufacture, a comparatively small number have been completed, though quite a number are nearly so, their completion having been purposely held up to develop some detail of the breech mechanism, and the next year will make an unusually large showing of finished guns. The number of guns completed is 22 for main batteries, viz., one 13-inch, one 12-inch, three 8-inch, eight 6-inch, four 5-inch, and five 4-inch. For secondary batteries, 65, viz., one 3-inch and sixty-four 1-pounder automatic.

Forgings are on hand and in various stages of manufacture for 297 guns for main batteries and 101 for secondary batteries, viz., nineteen 12-inch of 40 calibres, one 8-inch nickel of 35 calibres, one 7-inch experimental, fifty 6-inch of 50 calibres, sixty-one 5-inch of 50 calibres, sixty-six 4-inch of 50 calibres, ninety-nine 3-inch of 50 calibres (14-pounders), sixty-five 6-pounder semi-automatic, and thirty-six 1-pounder automatic. The 6-inch B.L. guns for the "San Francisco" have been converted into rapid-fire guns. Large quantities of smokeless powder of excellent quality, meeting all tests, have been procured from private manufacturers, who have no difficulty in meeting all the Board's requirements, no unfavourable qualities thus far having been detected.

The 5 battle-ships, 6 armoured and 3 protected cruisers to be contracted for during the next few months, will require 930 guns of various calibres—270 for their main and 660 for their secondary batteries.

All the turrets and ammunition hoists of these vessels will be electrically operated, and provision has been made for a large supply of ammunition for each of them. The battle-ships will each carry 592 tons of ammunition: the armoured cruisers 412 tons, and the protected cruisers 348 tons.

The battle-ships "Kearsarge" and "Kentucky" are without doubt an unqualified success, and while there is and probably always will be a decided difference of opinion among naval officers as to the merits, or perhaps, more properly speaking, as to the advisability of the system of superimposed turrets, it must be admitted that it possesses certain very attractive features, among which are an absolute non-interference of guns, a heavy and unobstructed bow and stern fire, and the fact that the 8-inch guns—being mounted on the line of the keel—are available for service on either side, resulting in a very considerable saving of weight for equal efficacy. The arguments for and against superimposed turrets are well understood and need not be repeated, but it is a fact worthy of note that a considerable number of naval men who were opposed to the superimposed turrets for various reasons have changed their views since they have seen them completed and in service.

The total amount of armour delivered during the year was 2,869 tons. Practically all the armour remaining for these vessels has been forged and carbonised, and it is expected deliveries will have been completed within 6 months.

Experiments to demonstrate the comparative resisting power of armour manufactured by the two processes now in vogue in this country have shown that while the so-called Krupp armour shows a marked superiority for the thicker armour, there is little or no difference in plates up to and including those of 5 inches in thickness. It is proposed, therefore, to divide the armour to be contracted for into two classes, the first consisting of face-hardened armour over 5 inches in thickness; second, face-hardened armour 5 inches and less in thickness, so that there will be required of the former 24,950 tons and of the latter, 10,250 tons, the remainder being homogeneous armour. This arrangement will materially reduce the cost and at the same time afford the most efficient protection for our ships. Several experiments have been made with armour plates furnished by private manufacturers using processes unknown to the Bureau, but in no case has there been promise of improvement over present methods.

The Bureau is pleased to report that after a careful investigation and examination of numerous locations offered, it has finally secured a tract of land which fulfils the requirements for a naval magazine site to an unusual degree, and the fact that a long interval of time elapsed before this could be accomplished is of but little consequence in view of the satisfactory results finally obtained. On the 20th April, 1900, the Bureau concluded the purchase of 111 acres of land on the west bank of the Hudson River, in Rockland County, N.Y., known as Iona Island.

The Naval Gun Factory is now under the immediate charge of Commander E. H. C. Leutze, U.S.N., who, on March 31st last, relieved Commander E. C. Pendleton, U.S.N., detached and ordered to sea, having completed a term of 3 years' duty. While the department is already aware of the valuable services of Commander Pendleton, it seems appropriate to record here that the improvement and development of the gun factory during his term of duty far exceeded that of any other equal period, due in a great measure to his superior judgment, ability, and foresight.

Experiments of an interesting and instructive character have been carried on to determine the practicability of reducing the temperature of magazines on shipboard by means of coils of pipes connected with the dense-air machines, and it has been shown to be quite practicable. A number of experimental sights of various kinds have been made, and several kinds of fuses of new type have been experimented with.

During the past year 22 officers have been attached to the yard for the purpose of receiving instruction in ordnance matters, and 123 enlisted men have taken the usual course prescribed for those who desire to qualify for seaman gunners.

The Naval Proving Ground, which also includes the smokeless powder factory, is at present in charge of Lieutenant Joseph Strauss, U.S.N., who, on 4th April, 1900, relieved Commander A. R. Coudon, U.S.N., detached and ordered to sea duty. While the completion of the powder factory was accomplished under the officer now in charge, the burden of the work fell to his predecessor, to whom the Bureau is greatly indebted for his valuable and loyal services. The smokeless powder factory was completed about May last, and everything is now in good working order, and a moderate quantity of satisfactory powder is being turned out daily, and at a very moderate cost.

Seven torpedo-boats have been attached to the station for the purpose of instruction, and have been of great value in that respect. Forty-three officers have received instruction during the year in the care, adjustment, and handling of torpedoes, in torpedo-boat work, in the care and manipulation of air compressors, and in practical electricity, with special reference to the apparatus in use in naval vessels, while 14 junior officers qualified as practical divers. Eighty enlisted men received instruction during the same period of a similar character, 28 of whom qualified as seaman gunners, and 44 of whom took a course in diving. Experiments have been made and instruction given to classes of officers in wireless telegraphy.

It is believed that the boats now building of the "Holland" type will prove superior to the "Holland" in several important respects; but a more intimate and

extended knowledge concerning them, their endurance, habitability, durability, reliability, etc., will be necessary before a correct estimate of their military value can be made. The "Holland" is in excellent condition, but to be kept so she should not be laid up. The Bureau has recommended that the "Holland" be sent south for the winter months to serve as a school of instruction for officers and enlisted men, and the department having approved the same, she has been placed in commission under the command of Lieutenant H. H. Caldwell U.S.N., and sent to Annapolis. It will probably be found necessary to keep a crew or a partial crew attached to each of the submarine boats to properly care for them and prevent their deterioration. In its instructions the Bureau has endeavoured to bring out all the good points of the "Holland" and to disclose any defects that she might have. The reports concerning her thus far are favourable, and she has acquitted herself in a creditable manner, for which no small amount of credit is due to Lieutenant Caldwell and his volunteer crew.

The Bureau desires to express its appreciation of the earnest and efficient services of its official and civil force, both in the Bureau and at the various Navy yards and stations, especially to the assistant chief of the Bureau, Lieutenant T. C. Fenton, U.S.N., and to the chief clerk, Mr. E. S. Brandt. All have performed their duties well and to the Bureau's entire satisfaction.—*Army and Navy Journal.*

MILITARY NOTES.

PRINCIPAL APPOINTMENTS AND PROMOTIONS DURING MAY, 1901.

Major-General Sir B. Blood, K.C.B., R.E., to command a division in South Africa, with the local rank of Lieut.-General whilst so employed, and to be graded as a Lieut.-General on the Staff. Lieut.-Colonel A. Masters, I.S.C., to be Colonel. Lieut.-Colonel B. A. Satterthwaite, the Loyal North Lancashire Regiment, to be Colonel. Major-General Sir I. S. M. Hamilton, K.C.B., D.S.O., to be Military Secretary at Head Quarters. Lieut.-General (local General) Lord Kitchener of Khartoum, G.C.B., G.C.M.G., R.E., Commanding-in-Chief the Forces in South Africa, is appointed to the Honorary Colonelcy of the 1st Bedfordshire Royal Engineers (Volunteers). Lieut.-Colonel C. G. Knocker, A.S.C., to be Colonel. Lieut.-Colonel T. W., Viscount Coke (Lieut.-Colonel and Colonel retired pay), the Prince of Wales's Own Norfolk Artillery, is granted the temporary rank of Colonel in the Army whilst employed in South Africa. Colonel A. Broadwood from Lieut.-Colonel the Royal Guards Reserve Regiment, to be Colonel to command the 1st Regimental District (Royal Scots, Lothian Regiment). Brevet Colonel C. E. Heath from Lieut.-Colonel A.S.C., now temporary A.Q.M.G. at Head Quarters, is confirmed in that appointment, and is granted the substantive rank of Colonel in the Army. Lieut.-Colonel G. W. Deane, I.S.C., to be Colonel. Lieut.-Colonel G. R. Challenor, R.F.A., to be Colonel. Lieut.-Colonel A. L. S. Burrowes, R.M.A., to be Colonel. Lieut.-Colonel F. A. Bowles, R.G.A., to be Colonel.

HOME.—A report on Swiss Rifle Ranges, compiled by Major the Hon. T. F. Fremantle, 1st Bucks Volunteer Rifle Corps, and Captain E. C. Grant, Argyll and Sutherland Highlanders, for the information of the British Government, has recently been published as a Parliamentary Paper. The report concludes with the following memorandum on Swiss Musketry training :—

As the Swiss Army is purely a Militia Force, and, as such, is only available for training during a short period of each year (in the case of infantry every other year), and as a man, once he has fired his recruit's course of musketry, can, and generally does, fire his annual course in a civilian shooting club, it is very difficult to compare the general method of training in Switzerland with our own, except to a certain extent with that of the recruits and in one or two minor details.

To begin with the recruits. When the men come up for training they are formed into companies of about 100 each, with four officers, each company under the supervision of a staff officer. The recruit's training lasts 45 days, and in that time he has to learn everything about his business as a soldier. He is kept hard at work, and is only taught those things which are absolutely necessary; for instance, as far as manual exercise is concerned, only to "order," "sling," and "pile" arms, as those are considered sufficient for all practical purposes. He is not taught the bayonet exercise. Musketry training is combined with the other work, and is not looked on as a thing by itself, though it is considered the most important part of the training. It is very carefully carried out step by step, the amount of individual attention each man receives being particularly noticeable. Conditions are laid down to be fulfilled at each range before going on to the next, so that no man fires at the long ranges before he is fairly proficient at the shorter ones, thus minimising the chance of accidents. All individual practices are carried out in marching order to accustom the man to firing with his pack on. A rest is used to support the rifle when the recruit first fires at a target, this enables him to confine his attention to begin with to aiming and pressing the trigger properly; it encourages him too by helping him to hit the target when he first commences, and teaches him that he must hold his rifle steady to do so. For shooting standing the rest is a slanting bar of wood, cut in steps, to suit men of different height, fixed on an upright with two cross pieces at the bottom as feet. For the kneeling position the practice is fired from a shelter trench, the rifle resting on a sandbag on the parapet.

A sandbag is used for lying down. Collective practices are not fired on the measured range, which is used solely for individual shooting. Fire discipline is carefully taught, but either without ammunition or with blank. Towards the end of the 45 days' training a 3 or 4 days' march in full marching order is carried out, the companies either bivouacking or going into billets for the nights. Field firing is carried on on one of these days, a small party under an officer of the instructional staff being sent out to select the position and put up the targets. We saw a company of recruits do their field firing; they had marched about 25 miles the first day, and about 15 the second, on which the field firing took place. The scheme was a very simple one. The targets used were screens about 30 yards long and 20 inches high with heads and shoulders painted on them. In the intervals between these screens were a few separate head and shoulder targets which fell down when hit, and so helped the firers in finding the range, as the ground was not favourable for seeing the shots strike. The exercise was carried out without any noise or confusion, the men firing steadily and well and taking every advantage of cover; in fact, considering that these men had only had about 6 weeks' training, the results were extraordinarily good.

The trained man, that is to say, the man who has gone through the above-mentioned 45 days' work, which is the principal training of his whole service in the Army, only comes up afterwards for 18 days every other year, but he has to fire a course of musketry every year, which he does as explained in paragraph 12 of the report on Rifle Clubs.

Other points for comparison are as follows:—

1. No money prizes are given for shooting in the annual course; badges of different sorts, which are worn on the arm, take their place.
2. Volley firing is never employed, but a kind of independent, one round at a time, is used instead. It is carried out as follows:—The fire unit commander gives the command "ready," points out the target and names the distance: he then simply gives the command "fire," on which each man comes to the "present" independently, fires one round, reloads, and remains at the "ready" till the section is ordered to fire again. They say this method gives better results than volleys, for the following reasons. With volleys, if a man has not got a satisfactory aim when the command "fire" is given, he either does not fire at all, or fires and misses the target, and that even when a man has got a good aim, the fact of his having to fire by word of command often causes him to jerk or pull at the trigger

and consequently to go very wide of the mark. They also say their method is quite as good, if not better, than volleys for finding the range. It was not adopted until after the two systems had been most exhaustively tried one against the other. Their whole system of fire discipline, in fact, is much less rigorous and centralised than ours, a great deal being left to the common sense and initiative of the private soldier, while at the same time the fire is absolutely controlled.

3. Ammunition on the soldier is carried as follows:—For the magazine, chargers holding 6 rounds each in pouches on the waist-belt. For single loading, a strip of felt with loops for 30 separate cartridges is buttoned on the tunic, one end to one of the front middle buttons and the other to a button on the left shoulder; a similar strip, ready filled, is carried in a pocket underneath the valise, so that it can be got at quite easily by the man himself. When he has finished the first strip, he has only to unbutton it and replace it by the full one.

The report on the musketry training of the Regular forces serving at home, and of the Militia, Yeomanry Cavalry, and Volunteers, during the year 1899-1900, has just been printed. Appended to it are extracts from reports by general officers commanding districts, with tables of results of the individual and collective practices arranged by districts.

The following is the result of the shooting of the Regular forces serving at home, and of the Militia, Yeomanry Cavalry, and Volunteers, from 1st November, 1899, to 31st October, 1900:—

Regular Forces.—Cavalry exercised, including Royal Reserve regiments and Reserve squadrons:—Trained men, 4,153; marksmen, 931—percentage, 22; second-class shots, 2,414—percentage, 58; third-class shots, 808—percentage, 19. Recruits, 4,977; first-class shots, 1,765—percentage, 35; second-class shots, 3,212—percentage, 64.

Royal Engineers exercised:—Trained men, 1,984; marksmen, 542—percentage, 27; second-class shots, 1,113—percentage, 56; third-class shots, 329—percentage, 16. Recruits, 1,449; first-class shots, 1,064—percentage, 73; second-class shots, 376—percentage, 26.

Infantry exercised, including depôts, provisional battalions, and "details":—Trained men, 37,644; marksmen, 8,135—percentage, 21; second-class shots, 24,332—percentage, 64; third-class shots, 5,177—percentage, 13. Recruits, 15,368; first-class shots, 8,559—percentage, 55; second-class shots, 6,809—percentage, 44.

Army Service Corps exercised:—Trained men, none. Recruits, 94; first-class shots, 27—percentage, 28; second-class shots, 67—percentage, 71.

The course carried out was that laid down in the Musketry Regulations, 1898.

Figure of Merit.—The average regimental figure of merit in the cavalry was 69 for the compulsory individual firing, and 31 for the compulsory collective practices. The average battalion figure of merit in the infantry was 78 for the individual and 40 for the collective.

Militia.—Militiamen exercised:—Trained men, 37,795; marksmen, 2,471—percentage, 6; second-class shots, 18,301—percentage, 48; third-class shots, 17,027—percentage, 45. Recruits, 16,886; first-class shots, 4,764—percentage, 28; second-class shots, 12,122—percentage, 71.

The average battalion figure of merit was 59 for individual practice and 30 for collective practice.

Yeomanry.—Yeomen exercised:—Trained men, 6,508; marksmen, 2,394—percentage, 36; second-class shots, 3,970—percentage, 61; third-class shots, 144—percentage, 2. Recruits, 3,041; first-class shots, 1,085—percentage, 59; second-class shots, 1,236—percentage 40.

The average regimental figure of merit was 120.

Volunteers.—Volunteers exercised:—Trained men, 137,078; marksmen, 50,695—percentage, 36; second-class shots, 85,237—percentage, 62; third-class shots, 1,146, or

nearly 1 per cent. Recruits, 69,668 ; first-class shots, 43,354—percentage, 62 ; second-class shots, 25,682—percentage, 36 ; third-class shots, 632, or nearly 1 per cent.

The average battalion figure of merit was 139.

School of Musketry, Hythe.—Lieut.-Colonel Pennington, Commandant of the School of Musketry, Hythe, says that during the period from 1st November, 1899, to 31st October, 1900, five courses were held, during which the following underwent instruction :—

Officers of the Regular forces, 107 ; Militia, 146 ; Yeomanry, 9 ; Volunteers, 65 ; Colonial, etc., 17—total, 344 ; and non-commissioned officers of Regular forces, 235 ; Militia, 250 ; Yeomanry, 17 ; Volunteers, 74 ; Colonial, etc., 8—total, 584—making the total of all ranks 928.

In addition to the ordinary courses, 22 detachments of Militia, 10 detachments of Volunteers, and a large number of Imperial Yeomanry were trained in the use of the Maxim gun during the winter of 1899-1900.

CHINA.—A Russian surgeon with the China Expeditionary Force has published some information regarding the wounding power of projectiles, which confirms what has already been stated regarding the South African war. The surgeon furnishing the information has had the charge of 500 Russian wounded, in addition to many Frenchmen and Japanese.

"The greater part of the wounds, he says, were in the arms and legs, and then in a lesser degree came wounds of the abdomen, the pectoral cavity, the skull, and the face. The wounds produced by bullets were far more numerous than those of artillery projectiles.

"Bullets with a metallic envelope were relatively more humane than others ; they did not tear the tissues, rarely splintered the bone, and did not foul the flesh. Wounds produced by these bullets, with the exception of those touching the abdominal cavity, generally made favourable progress. Almost all the wounded, who had the pectoral cavity or the lungs pierced, recovered. Those wounded in the skull also progressed favourably. In this latter kind of wound *if death was not immediate, cure followed*, even if the wounded man had lost a small spoonful of the cerebral substance.

"On the other hand, wounds produced by the bursting of artillery projectiles were generally grave. The wounds became purulent, and frequently necessitated the amputation of the limb affected."

The Russian surgeon adds that in consequence of the difficulty experienced in removing the wounded, the greater part of the amputations had to be performed on the spot, viz., at the principal dressing station. The issue of these operations was invariably happy.—*Revue Militaire Suisse.*

FRANCE.—The appearance of the new War Budget is altered in consequence of the creation of a special section for expenses affecting the maintenance of Colonial troops quartered at home, as well as those quartered in Algeria and Tunis. At first sight it would appear as though there was an increase of over 23,000,000 francs in the expenditure, but the fact should not be lost sight of that the expenses regarding the Colonial Army, which are now included in the War Department, no longer appear in the Naval and Colonial Budgets.

In consequence of this change, the expenditure of the Budget is now divided into three sections, as follows :—

	Francs.
1st Section (Home troops)	641,248,850
2nd Section (Colonial troops)	26,329,000
3rd Section (Extraordinary Expenditure)	49,122,150
Total	716,700,000

The War Budget of 1901 amounted to 693,108,321 francs, and the apparent increase is, therefore, 23,591,679 francs. But, as is pointed out above, this is not an

actual, but merely an apparent increase in the State expenditure, and is counterbalanced by the Colonial Army struck out of the Naval and Colonial Budgets. In short, the War Department expenditure for 1902 is within the same limits as that voted for 1901.

As regards the 1st Section there is an increase of 8,848,679 francs over last year; but, on the other hand, the 3rd Section (Extraordinary Expenditure) shows a decrease of 11,586,000 francs. The result is, therefore, a real saving of 2,737,321 francs, unless this amount is devoted to decreasing the 26,329,000 francs contained in the 2nd Section (Colonial troops).

A detailed examination shows that in the 1st Section two-thirds of the headings are more or less increased, especially as regards pay (increase in the pay and allowances of lieutenants), travelling allowances, special changes of station, clothing, camp establishment, penitentiary establishments, and artillery (*matériel*) establishments, whilst there is a marked reduction as regards forage.

In the 3rd Section there is an increase of 3,414,000 francs, bearing especially on barrack accommodation, coast armament, and frontier fortifications, and a decrease of 15,000,000 francs, arising from the completion of the manufacture of small arms, from that of the new artillery *matériel* now finished, and from certain completed works, such as the Bizerta defences.

The 2nd Section fixes the detail of expenditure regarding the Colonial *personnel* recently attached to the War Department.

The effectives to be maintained in 1902 are as follows :—

Home Troops.—29,424 officers, 553,002 rank and file, and 142,453 horses.

Colonial Troops.—1,615 officers, 25,729 rank and file, and 1,558 horses.—*Le Temps.*

The Minister of War published on the 22nd April last some general instructions for manœuvres, to be put in force in all army corps this year, as a tentative measure, and with a view to being made permanent during the autumn manœuvres. The following are the principal regulations, viz. :—

Marches.

Discipline on the march must be enforced with the greatest strictness. During the halts the road should be left free, horses drawn up on the right of the road. By a change in the Provisional Instructions for Infantry of the 24th December, 1896, the men, on being halted, will face to the left, pile arms in front of them, and remain on the right of the road behind their arms and valises.

In the artillery the gunners will march on foot, only taking their seats when the battery is ordered to trot. In regimental transport columns and convoys the dismounted men will march in sections of fours in front, the spare horses by twos behind the wagons. When passing through towns and villages the infantry will march in step and with their arms slung. Mounted men and conductors will fall into their proper places; swords will not be drawn. This order applies to all detachments on the march, including transports and convoys. No other but regulation wagons will be tolerated with the columns or in rear of troops. The military police will pay special attention to this.

Manœuvres.

The most stringent orders should be given that all unnecessary damage should be avoided during the manœuvres, and that all cultivated ground should be respected as far as possible.

The regulations regarding formations and the various kinds of fire to be employed will be strictly adhered to. No special tactical instructions for manœuvres should be given out to or observed by troops.

Perfect silence must be maintained during manœuvres. The fight will be developed in a slow and methodical manner, so that all the various phases may be well marked on the spot, and that the artillery may have time to take up its position, to regulate its fire, etc. It is particularly recommended that the extent of front in action should

be proportionate to the real effective of the units. Positions will be occupied on the basis of the actual, and not on that of the war, effective of units.

In every attack the assaulting troops will be halted at from 50 to 100 metres of the defensive. If neither opponent thinks he should retire, arms will be piled, and both sides will await, according to circumstances, either the decision of an umpire or that of the officer of the highest rank present. Cavalry charges will be halted at 100 metres distance.

When cavalry charges infantry it will go through them if it can do so without risk to either of the parties, or it will pass by to the right or left after the charge. In any case it must not remain under infantry fire even whilst awaiting an umpire's decision as to the result of the charge. Before the deployment all sutlers' carts will be left behind at a place off the roads pointed out by the corps commander. Similar precautions will be taken with regard to all military transport wagons with the exception of medical and company wagons, which alone will be allowed on the manœuvre ground. No bugle sounds except the "charge" will be permitted with outposts or on the manœuvre ground with the exception of those left to the discretion of the director of the manœuvres, and these will be always repeated. These bugle calls are the "Halt" preceded by the "Alert," the "Advance" preceded by the "Alert," the "Assembly" preceded by the "Alert."

At Army manœuvres when these bugle calls are sounded by order of the Director-General of Manœuvres they will in addition be preceded by the air "Aux Champs."

Some trumpeters in all cavalry regiments will be provided with bugles, in order to be able to repeat the above-mentioned bugle calls.

Conclusion of Manœuvres.—Unless the Director of the Manœuvres should give orders to the contrary on the "assembly" sounding and during the critique, the troops will be assembled and taken on to suitable ground, where they will make coffee and eat the cold repast that they should have in their haversacks. Fatigue parties will be told off to fetch water. The military transport and sutlers' carts will now rejoin their units. All officers, whatever their rank, should either carry themselves, or on their horses, a meal that they can eat at the same time and under the same conditions as the men consume theirs. Great pains should be taken in apportioning the cantonments, so that after the "assembly" has been sounded the camp equipage may be directed to them without delay. Cooks will march with the camp equipage, the meat cart will follow this detachment.

CANTONMENTS.

The commandant is responsible for all order and safety in the cantonment. Troops will enter their cantonments at a quick pace, with shouldered arms or drawn swords, bands playing. In the transport column all will have to march who are not authorised to ride on the wagons. All cantonment orders will be carried out in conformity with the field regulations on the subject. The very greatest precautions will be observed to guard against fire. All non-commissioned officers and men must be in by 8.30 p.m. at the latest. Garrison and regimental police and patrols will ensure the carrying out of this order. Commanders of posts will see that there is no noise in the mornings before the hour fixed for reveille. Vans and horsemen are, as a rule, forbidden to trot in cantonments. On off days, and when the cantonment commandants permit it, bands will play from 5 to 6 o'clock in the evening. Fatigue parties in the cantonments will always march in step. When certain localities in the manœuvre zone appear to present, relatively, small water resources, a previous cantonment enquiry should be made with special regard to the water supply before the arrival of the troops, so that the wells, fountains, and drinking places may be apportioned and the consumption regulated. The doctors are responsible that the drink and food sold to the soldiers are of good quality. The police will exercise a special supervision on shops, with particular reference to drunkenness. Every establishment where a case of drunkenness has been proved should be at once reported, and the place put out of bounds to the troops by the cantonment commander. Hunting is strictly forbidden to soldiers of all ranks during the period of manœuvres.

Outposts.

Troops in bivouac, and those on outpost duty, are entitled to a special extra ration. This ration will be given in kind, and should be eaten on the day itself.

Subsistence.

The greatest care must be taken in the feeding of the men. It is essential, during the period of hard work, to improve the feeding, especially by increasing the ration, which, as far as practicable, should be the same as the usual field ration. During the manœuvres meals will be regulated as on Service. As a rule, in the morning, before departure, the men will have coffee; the water-bottles will be filled. Whilst resting during manœuvres the men will take a cold repast with coffee. Soup should be made each day, and eaten at any hour fixed upon by the company commander. It will generally be possible to make this hour at 6 or 7 o'clock in the evening if care has been taken to send off the cooks and the meat carts with the camp equipment. If the troops arrive too late at the cantonments the soup will be replaced by a hash made with half the meat ration for the day. Soup will be made later with the remainder of the ration, so that the men may partake of it before leaving the following morning.

Transmission of Orders.

It is most important that orders should be transmitted as rapidly as possible to troops. Troops should be informed at evening roll call of the hour for their departure the following day. In the event of this information not being forthcoming at the hour of evening roll call, it is advisable that the troops should be held in readiness to leave the next day at reveille, say about 5.30 a.m. By this means the men will not be disturbed in their sleep, except in the improbable event of orders being given necessitating their departure before reveille.

Reports and Correspondence.

Diaries of the marches and operations will be kept by every corps and by the different staffs. In making out reports which may be called for from corps after the manœuvres, all documents relating to such reports should be put together each day, so that a connected account may be forthcoming immediately the troops are dismissed. All reports and writings should in addition be reduced to the smallest possible dimensions, so as not to uselessly take up officers' time. In the same way endeavours should be made to diminish, as far as possible, all correspondence between depôts and corps taking part in the manœuvres.—*Bulletin de la Presse et de la Bibliographie Militaires.*

The corps of occupation at Tonkin have just carried out, for the first time, grand manœuvres similar to those held every year in France and Algeria. These manœuvres have conclusively proved that the military authorities are able to concentrate an entire division, composed of troops of the various branches of the Service and complete in every detail, without having to deplete the frontier or important posts. The manœuvres were, on the whole, a great success, but there were certain defects that will be pointed out later.

Theatre of Operations.

This was most judiciously selected at the confines of the Delta or north of the Hanoi-Lang-Son Railway and in the triangle forward by Thaï-Nguyen, Bac-Ninh, and Phu-lang-Thuong. Thus the rice-field districts were avoided, in which all movements of troops are most difficult, and changes of position for large units almost impossible. The railway rendered the victualling of the troops comparatively easy, and the sick were cleared away by means of an ambulance established at the Seno railway station: company bakeries were also installed at the same place.

The scheme of the manœuvres was as follows:—

General Idea.

"A hostile army has invaded Tonkin by the valleys of the rivers Claire and Son-Cau, and has reached Thai-Nguyen."

Special Idea.

"The enemy detach a mixed brigade (B force) from Thaï-Nguyen, with orders to destroy the railway between Dap-Cau and Phu-Lang-Thuong, as well as all existing bridges between those two places on the Song-Cau and the Song-Thuong.

"A mixed brigade (A force) receives orders to drive back the enemy and to contain him until the arrival of reinforcements meant to operate on Thaï-Nguyen."

General Dodds, Commander-in-Chief of the Indo-China troops directed the manœuvres. Colonel Gouard was Chief of the Staff.

Composition of Troops.

The 1st Brigade (A force), commanded by General Follye de Joux, consisted of 2 battalions of the 9th Marine Infantry Regiment, 1 battalion of the 3rd Regiment of Algerian Tirailleurs, 1 battalion of the 4th Regiment of Algerian Tirailleurs, 1 battalion of the 1st Regiment of Tonkin Tirailleurs, 1 field and 2 mountain batteries of Colonial Artillery, 1 troop of Annamite Chasseurs, 1 Engineer detachment, 1 Ambulance detachment, and the proper administration services, etc.

The 2nd Brigade (B force), under General Geil, consisted of 1 battalion of the 10th Marine Infantry Regiment, 1 battalion of the 1st Foreign Regiment, 1 battalion of the 2nd Foreign Regiment, 1 battalion of the 2nd Regiment of Tonkin Tirailleurs, 1 composite battalion of the 3rd and 4th Regiments of Tonkin Tirailleurs, 2 mountain batteries, 1 squadron of Annamite Chasseurs, 1 Engineer, and 1 Ambulance detachment, and the proper administration services, etc.

The effectives were fixed at 3 officers and 125 men per European, and 3 officers and 200 men per Tonkin company.

Marches.

These troops, who came from various parts of Tonkin, had for the most part to undertake long and painful marches in order to concentrate. The concentration of each brigade was concluded by 5th March. The 1st Brigade was in cantonments at Huang-Mai and the surrounding villages, the 2nd Brigade at Duc-Thang and the neighbouring villages.

Operations.

The manœuvres lasted for 3 days, viz., brigade against brigade manœuvre the 7th and 8th March; division manœuvres against a skeleton enemy the 9th March. On the evening of the 9th March the 1st Brigade encamped at Bac-Ninh and the 2nd at Dap-Cau about 5 kilometres apart. A final grand review on the 10th March on the glacis of the citadel at Bac-Ninh in the presence of the civilian authorities of Tonkin, the European population from Hanoï, and a large crowd of Annamites, concluded the manœuvres.

General Observations.

1. The period for the execution of the manœuvres was the worst that could possibly have been selected. The month of March is ordinarily the month of the *crachin*, and if the troops had had the same bad weather that has been experienced since their return to the garrisons they would have suffered very greatly. The sick would have been numerous and the revictualling difficult. In France the month of September is usually chosen, in Tonkin the month of December is preferable for manœuvres.

2. The credits were insufficient; these manœuvres were carried out economically, and the authorities were niggardly in the matter of transport. The European soldiers carried exceedingly heavy valises, such as they would never be required to carry in war, and which, in such a climate, greatly harassed the men, of whom many were suffering from anæmia. Officers were only allowed 25 kilograms (about 55 lbs.) personal baggage.

3. On account of the insufficient credits it was only possible to establish two supply centres, one for each brigade. Some battalions were obliged, after exhausting manœuvres, to send fatigue parties for their food, etc., a distance of 5 kilometres (nearly 4 miles). These fatigue parties, owing to want of transport, had to carry back the supplies on their backs. The necessary number of coolies or draught animals should have been provided for this purpose.

4. Certain corps had draught mules provided for them for transport purposes from the artillery. These large mules from Poitou, strong and active, rendered great services, but their conductors were small Tonkin tirailleurs, who were afraid of them, and who were quite unaccustomed to look after baggage.

It would be better if a company were raised, half French and half native, for this purpose.

5. It was logical to suppose that the Tonkin element would predominate in these manœuvres. The Tonkin tirailleurs were, however, never massed in large units, and the manœuvres were conducted almost entirely by European troops as in France or Algeria. Thus out of 10 infantry battalions only 3 were Tonkinese.

6. About 40 rounds of *blank* ammunition were allowed per man. It would have been infinitely preferable if ball cartridges had been issued. It is a fact that at the end of March the Tonkin troops had only an allowance of 20 cartridges a man for their musketry course on account of the paucity of ammunition, instead of the regulation allowance of 120 cartridges. These troops may be called upon any day to march on Tonkin or into China. Do their mobilisation cartridges exist? One may easily doubt it, seeing what takes place at manœuvres. It is thus that a colony more than 30 days' distance from home, and exposed every day to an attack, is left without any means of defence! What would happen if the sea were no longer open? Competent authorities state that there should always be a reserve of at least 25,000,000 cartridges, about 1,000 per man, at Tonkin.—*La France Militaire.*

RUSSIA.—The *Rouskii Inralid*, as is the case every year, gives the programme of the approaching summer manœuvres of the Russian troops in the different districts. They are as follows:—

ST. PETERSBURG DISTRICT.

This year, in addition to the Guard troops, 2 divisions will assemble at the camp at Krasnoé-Sélo. Hitherto only 1 division has been encamped there at a time. The 37th Division will, however, only be brought there from the 19th July to the 13th August, the period of the general assemblies, and will be placed under canvas near the village of Pondost. There will, consequently, be two entire army corps at Krasnoé-Sélo, viz., the Guard and the XVIIIth Army Corps, with an effective of 70¼ battalions, 30 squadrons or sotnias, and 41 batteries.

The Guard duties at St. Petersburg will be undertaken by the 24th Infantry Division, and by the 199th and 200th Reserve Regiments. All the other available troops and the corps of the Finland district who should go to Krasnoé-Sélo, viz., the 1st Finland Rifle Regiment and the 7th and 8th Battalions of Finland Rifles, making a total of 98¼ battalions, 50 squadrons or sotnias, and 52 batteries, will take part in disembarkation operations from the 14th to the 26th August, on the coast of the Gulf of Finland between Revel and Vyborg. The chief command of these operations will be taken by the Grand Duke Vladimir, commanding the troops of the St. Petersburg district.

VILNA DISTRICT.

1. All the cavalry of this district, 48 squadrons, and 24 guns, will assemble for special manœuvres in the neighbourhood of Orany from the 19th to the 28th September.

2. All the troops assembled in the camps at Grodno, Orany, Vilna, and Baranovitchi, namely, the 26th, 27th, 30th, and 43rd Infantry Divisions, the 2nd Cavalry Division, and the 3rd Don Cossack Regiment, making a total of 62 battalions, 30 squadrons, and 33 batteries, will conclude their march manœuvres, which will last for 2 weeks, by a general manœuvre of 5 days from the 2nd to the 6th September, under the supervision of General Trotsky, A.D.C., commanding the troops of the district.

VARSOVIE DISTRICT.

1. Special cavalry assemblies, each consisting of 2 divisions, will take place at Varsovie, Brest-Litovsky, and Groitsy.

2. A grand manœuvre of 6 days, from the 6th to the 11th September, will take place between Varsovie and Siedletz. The troops to take part in them are the VIth

XIVth, XVth, and XIXth complete Army Corps, the 46th, 47th, and 48th Reserve Brigades, the 13th and 15th Cavalry Divisions, and corresponding Artillery and Engineer units, which will make up a total of 162½ battalions, 134 squadrons, and 556 guns. The scheme of the manœuvres is as follows :—

"A Western Army (88¾ battalions, 69 squadrons, and 310 guns) is ordered to cover the blockade of the fortified district of Varsovie from the East. To accomplish this mission it advances on the Siedletz-Loukov line against the Eastern Army (64¾ battalions, 65 squadrons, and 246 guns). The latter is ordered to break the investment of Varsovie from the East."

This manœuvre is a continuation of those of the two preceding years. In 1899 the Western Army was supposed to leave Thorn and Posnania to march towards the Vistula, and gave battle at Sokatcheff. In 1900 the same army forced the passage of the Vistula between Varsovie and the mouth of the Pilitsa in order to cut off the Eastern Army from its communications, Brest-Litovsky and Bielostok, and compelled it to fight at Kolbel.

KIEV DISTRICT.

The 3rd Rifle Brigade, which has just returned from the Far East with its clothing and boots completely worn out, will remain in garrison during the summer to refit.

The march manœuvres of the IXth, XIth, and XIIth Army Corps (106 battalions, 86 squadrons, and 57 batteries) will conclude with a grand manœuvre of 6 days from the 6th to the 11th September, under the command of General Dragomiroff, who commands the troops of the district.

ODESSA DISTRICT.

The troops assembled in the camps at Bender and Odessa (40 battalions, 27 squadrons, and 24 batteries) will end up their march manœuvres by a grand review, lasting for 5 days, from the 7th to the 11th September, and including the forcing of the River Dniester, in the neighbourhood of Bender.

MOSCOW DISTRICT.

The XIIIth Army Corps (29 battalions, 12 squadrons, and 14 batteries) will carry out a tactical problem, with opposing sides, between Smolensk and Orel.

CAUCASUS DISTRICT.

1. A special cavalry assembly will take place, for almost all the cavalry of the district, from the 6th to the 28th August. It will consist of 67 squadrons and 16 guns, under the orders of Lieut.-General Ivachkine, commanding the Caucasian Cavalry Division.

2. The greater portion of the troops assembled in the camps at Tiflis and Alexandropol, viz., 46 battalions, 43 squadrons, and 26 batteries, will execute grand manœuvres for 6 days, from the 23rd to the 28th September, in the neighbourhood of Tiflis, under the chief command of General Zézémann, commanding the IInd Caucasian Army Corps. The same troops will take part in the centenary fêtes of the annexation of the kingdom of Grouzie on the 25th September.

SIBERIAN DISTRICT.

All the available troops will be assembled in the camps at Omsk and Krasnoïarsk.

TURKEY.—The most important as well as the most ancient of Oriental Armies is that of Turkey. At the same time, the Ottoman military organisation has not all the completeness one would naturally expect to find in a State consisting of 25,000,000 souls. As a matter of fact, this organisation only takes Mussulmans into account. In spite of provisions to the contrary laid down in the *hatt-y-humaïoun* in 1856, Christians are still exempt, or rather excluded, from the Ottoman military service, and are compelled, as a compensation, to the payment of a substitution tax called *bedel i'askeri*. It is only in the Medical Corps that some non-Mussulman officers, usually Armenians or Israelites, are found. Certain Mussulmans, such as, natives of Constantinople, the north of Albania, the islands of the Ægean Sea, Arabia, and Tripoli, are also exempt from military service.

As regards other Ottoman subjects, military service is obligatory for 20 years, which is divided into four periods, viz., the Active Army (*nizam*), with its reserve (*ihtiath*), for altogether 6 years, the Reserve Army (*redif*) for 8, and the Militia (*mustafiz*) for 6 years. The service with the colours is according to regulation, 3 years, but the period is frequently extended to 3½, 4, or even more, years. Young men reaching the age of conscription and who are not liable to benefit by any exemption, constitute what the Turkish law calls the 1st Category; these are divided by lot between the two portions of the contingent, of which the first is for the full period of service, and the second to a service reduced by a period of from 6 to 9 months.

Men who draw an unlucky number may also be classified in the second portion by payment of a tax. Young men who are excused from service on account of infirmities, or as supporters of a family (these latter being fairly numerous), form the 2nd Category. Men forming this category, being liable to be called to the colours in war-time, are, theoretically, obliged to put in an appearance at some drills.

The portion most worthy of attention in the Ottoman military organisation is the *redif*, or Reserve troops. These troops possess permanent cadres composed of all the officers necessary for the mobilisation of the units, and some non-commissioned officers employed in offices, etc. According to information contained in the Military Annual (*Salnamé t'askeri*), these cadres are kept at their full strength in the same way as those belonging to the Active Army. The organisation of the *redif* is, naturally, altogether territorial. The whole Empire is divided into seven districts, under the command of a marshal (*muchir*), and the different headquarters of which are :—1st (the Guards), Constantinople : 2nd, Adrianople : 3rd, Monastir ; 4th, Erzindjan ; 5th, Damas ; 6th, Bagdad ; and 7th, Sana. The territory of the first three districts extends partly in Europe and partly in Asia ; the four latter are exclusively Asiatic. The 7th district, which includes Yemen in Arabia, merely has occupation troops, and possesses no *redif* corps. To each of the first six districts there corresponds one *nizam* and two *redif* army corps. The *redif* divisional and brigade staffs are formed on precisely similar lines to those of the *nizam*. The district is divided into four divisional areas, these again being partitioned into sub-divisions corresponding to the different units of the *redif*, down to and including the company. The *redif* cadres, in addition to the instruction of the men of this category called out during the concentration periods (usually one month every two years), as well as that which men exempt from permanent service must receive in their own neighbourhoods, are charged with all recruiting, mobilisation, and requisitioning operations, etc. Captains reside in the midst of their company district, whence they should visit the different villages to keep an eye on their men and to instruct them in their duties. It is a remarkable fact that Turkey, among the European Powers, was one of the first to apply the principles which regulate the organisation of contemporary Armies. Since 1846 she possessed a permanent grouping of troops in large units, district recruiting, troops of the second line, etc., institutions which elsewhere were only found in Prussia.

Thanks to the organisation of permanent cadres, the mobilisation of the *redif* may be effected very readily and easily. Moreover, on account of the relatively narrow effective of the Active Army, the mobilisation of a portion or of the whole of the *redif* is looked upon in Turkey as a most natural operation, to which recourse is had, even in peace-time, when it is wished to reinforce the garrison of certain provinces, either on account of interior troubles or from the fear of exterior complications. The incursions into Macedonia of Bulgarian bands in 1895, and of Greeks in 1896, put many *redif* battalions in motion. However painful for the population these concentrations may be, which retain, for many months and sometimes for years, family men who have already fulfilled their legal period of service, they are accepted with resignation.

Until quite recently the *redif* consisted only of infantry ; the units of other arms had to be supplied by the *nizam*, or Active Army. In 1899, however, a commencement was made for the formation of *redif* cavalry regiments, at first to the number of twelve, provided with permanent cadres on the same principle as infantry regiments.

Each of the military districts, as has been before mentioned, possesses an active army corps, consisting usually of 2 infantry divisions, each made up of a battalion of rifles and 4 infantry regiments of 4 battalions each; 1 artillery division of 3 brigades, consisting each of 2 regiments of 6 battalions (one of the brigades has, in addition, a group of 3 horse artillery batteries); 1 cavalry division of 3 brigades (2 regiments of 5 squadrons each); 1 battalion of engineers, with a telegraph and a transport company. This theoretical composition is not, however, as a a matter of fact, invariably a true one. The Ist Army Corps (the Guards), which is quartered almost entirely in Constantinople or its neighbourhood, includes, in addition, 2 Zouave regiments 1 Albanian, and 1 Arab, which, with the *Erthoghrout* cavalry regiment, constitutes the Sultan's special guard, and a regiment of Constantinople firemen. The IIIrd Corps, whose territory includes Macedonia and Albania, has, since 1896, been formed of 4 divisions: the IVth Corps, from the same date, has consisted of 3. On the other hand, the units furnished to the 3rd and 4th Districts by the Ist, IInd, and Vth Army Corps, having not yet been all reconstituted, remain incomplete. The artillery of the VIth and VIIth, and the cavalry of the VIIth Corps are also incomplete. In addition to the army corps, there are also two occupation divisions, the one in Arabia consisting of 4 infantry regiments, 1 independent battalion, and some artillery and cavalry troops; the other, in Tripoli, consisting of 4 infantry regiments, 1 rifle battalion, a brigade of cavalry, and a regiment of artillery.

Turkey can thus furnish 19 army corps, 12 of which are *redif*, these latter being of quite equal value to those of the Active Army.

A large number of the Asiatic tribes, Khurds and Arabs, representing a population of over a million and a half, escape regular recruiting, either by legal exemption or from their own refusal to submit to it. Endeavours have been made since 1891 to utilise these elements, who are for the most part warlike and accustomed to the use of arms, by forming them into a special Militia, only liable to short periods of instruction, and for service in time of war. This Militia consists exclusively of cavalry regiments, which are called *hamidié*, after the reigning Sultan, Abd-ul-Hamid, their organiser. Each of these regiments is made up of men of one or more tribes, and officered by local chiefs, with a sprinkling of officers from the Active Army. This system, which was meant to teach the Khurds discipline, provided them, as a first result, with arms of precision, and an organisation which was before lacking, and which they at once made use of by turning them against their Christian neighbours. One may remember that these *hamidié* regiments earned an evil notoriety in Armenia in 1894.

The Ottoman Army, then, consists at present of:—

THE ACTIVE ARMY OR *Nizam*.

320 infantry battalions, 203 squadrons of cavalry, 248 batteries of various sorts, of which 6 are howitzer, 18 engineer, 4 telegraph, and 21 transport companies. Some new batteries have yet to be formed.

THE RESERVE ARMY OR *Redif*.

374 infantry battalions, plus 666 supplementary battalions. The latter are provided with reduced cadres and are meant to be completed up to strength by excess men from the *redif* and the *nizam*, and 48 squadrons of cavalry.

IRREGULAR TROOPS.

266 squadrons of *hamidié* cavalry.

MILITIA OR *Mustahfiz*.

Only consists of infantry battalions, and are not organised in peace-time.

The Turkish Army is certainly not a negligeable quantity, but it is not what it might be under a different command and another administration. The late Græco-Turkish campaign brought out the rapidity of the mobilisation, the devotion and endurance of the soldiers, both of the *nizam* and of the *redif*, but it also showed, in the higher commands, indecision and lethargy, which appear difficult to explain, when one considers the enormous disproportion existing between the two belligerents.—*Précis from Journal des Sciences Militaires.*

NAVAL AND MILITARY CALENDAR.

MAY, 1901.

1st (W.) Lord Kitchener reported that the last of the Boers' "Long Toms" had been blown up.

2nd (Th.) Russian troops had an engagement with the Chinese near Mukden, and sustained 50 casualties, including a general officer.

4th (Sat.) Launch at Cherbourg of submergible torpedo-boat "Sirène" for French Navy.

6th (M.) Delarey moved north from Haartebeestefontein with his forces.

7th (T.) H.M.S. "Halcyon" paid off at Devonport.

.. .. Lord Kitchener reported the capture by the British of a 12-pounder, a 9-pounder, and a Maxim.

.. .. The "Tantallon Castle" went ashore at the entrance to Table Bay. Passengers and mails saved.

8th (W.) H.R.H. the Duke of Cornwall and York presented South African medals to the members of the Victorian contingents who had been at the front.

.. .. Sir Alfred Milner left Cape Town for England.

9th (Th.) H.M.S. "Doris" arrived at Plymouth from the Cape.

.. .. H.R.H. the Duke of Cornwall and York opened the Federal Parliament and read a message from H.M. the King.

10th (F.) H.R.H. the Duke of Cornwall and York reviewed 13,000 Colonial troops, sailors, and marines at Flemington, near Melbourne.

.. .. Lord Kitchener was proclaimed High Commissioner and Administrator of the Transvaal and Orange River Colonies during the absence on leave of Sir A. Milner.

11th (Sat.) Lord Kitchener reported 28 Boers killed, 9 wounded, 130 prisoners, and 183 surrenders.

12th (S.) H.M.S. "Flora" arrived at Plymouth from South-East Coast.

14th (T.) China agreed to pay the indemnity of 450,000,000 taels demanded by the Powers, in thirty annual instalments of 15,000,000 taels each.

15th (W.) H.M.S. "Thetis" arrived at Plymouth from the Cape.

17th (F.) H.M. the King was presented with the flag of the Opepe tribe of Maoris.

.. .. Launch at Rochefort of submarine boat "Farfadet" for French Navy.

19th (S.) Launch of first-class battle-ship "Ohio" from Union Works, San Francisco, for U.S. Navy.

20th (M.) Launch of first-class armoured cruiser "Euryalus" from Vickers' Yard, Barrow.

.. .. H.M.S. "Pheasant" paid off at Devonport.

.. .. H.M.S. "Narcissus" commissioned at Portsmouth.

.. .. H.M.S. "Immortalité" commissioned at Chatham.

.. .. H.M.S. "Perseus" commissioned at Chatham.

.. .. Lord Kitchener reported that an armoured train had been dynamited by the Boers north of Kronstadt, and an officer killed; also that during the week 19 Boers were killed, 14 wounded, 258 taken prisoners, and 71 surrendered; 286 wagons and 105,000 rounds of small arm ammunition were also captured.

.. .. A small Boer laager was captured near Craddock.

21st (T.) H.M.S. "Beagle" commissioned at Portsmouth for the Cape.

.. .. H.M.S. "Porpoise" arrived at Spithead from Australia.

21st (T.) T.R.H. the Duke and Duchess of Cornwall and York were present at a military review at Lytton, near Brisbane. The Duke presented medals won by Colonial troops in the South African Campaign.
22nd (W.) Arabi Pasha and Mustapha Tehmy were pardoned by the Khedive.
23rd (Th.) A squadron of Johannesburg Rifles captured Commandant Swartz and some of his men by an ambush.
24th (F.) H.M.S. "Barrosa" paid off at Devonport.
" " H.M. the King presented Colours to the 3rd Bn. Scots Guards on the Horse Guards' Parade.
" " Sir A. Milner arrived in London from South Africa and was received by H.M. the King at Marlborough House, who conferred a peerage on him.
25th (Sat.) 15 Boers killed and 17 wounded near Kenhardt in an unsuccessful attack on a convoy.
27th (M.) Lord Kitchener reported 63 Boers killed, 36 wounded, 267 taken prisoners, and 83 surrendered.
28th (T.) H.M.S. "Cressy" commissioned at Portsmouth for China.
" " T.R.H. the Duke and Duchess of Cornwall and York reviewed 9,000 troops at Sydney, and presented Lieutenant Dufrager with a scarf embroidered by Her late Majesty Queen Victoria.
" " Colonel Colenbrander captured 50 Boers near Pietersburg.
29th (W.) H.M.S. "Magicienne" arrived at Plymouth from the Cape.
" " 200 Boers surrendered at Palapge, and 42 wagon-loads of men, women, and children at Tuli.
30th (Th.) H.M.S. "Eclipse" commissioned at Chatham for China.
" " H.M.S. "Peacock" arrived at Plymouth from China.
" " General Dixon's force successfully repulsed an attack by Delarey near Vlakfontein after severe fighting. British casualties 174. The Boers left 35 dead on the field.

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NAVAL.

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BOOK NOTICE.

The Work of the Ninth Division. By Major-General Sir H. E. COLVILE, K.C.M.G. C.B., author of "The Land of the Nile Springs," etc. London : Edward Arnold, 37, Bedford Street, Strand. 1901. Price 10s. 6d.

Whether Sir Henry Colvile's narrative be chiefly admirable for its military value, or for the very charming style in which it is written, is a question upon which opinions may differ : but few people will be grudging in the measure of praise bestowed upon it in respect of either or both accounts. By the civilian reader the story of how the Ninth Division marched and fought will be followed with increasing interest from beginning to end : whilst the soldier, in addition to similar enjoyment, can scarcely fail to gain a great deal of professional instruction from giving it the careful study which it deserves.

Two things that constantly impress themselves upon our notice are that Sir Henry Colvile never ordered anything to be done without having some ulterior object clearly before his mind, and that whenever the orders received by him failed to indicate the general scheme of operations in which his own troops were to share, he displayed quite remarkable skill and preseverance in solving such riddles to his satisfaction. Once only, in regard to the latter of these, his reasoning appears to have been at fault, and this was in connection with the unfortunate affair at Lindley. In this instance "further orders" that he had been awaiting were received in cypher, directing him to reach Heilbron on 29th May. The previous instructions had not been in cypher, therefore General Colvile assumed, erroneously, that his compliance was of vital importance to some strategical combination, the nature of which was purposely kept a dead secret. Actually, had he disobeyed and marched to the assistance of Colonel Spragge, no evil would have resulted, except a scarcity of provisions for his troops. Yet had it been intended that the order should be literally interpreted, and had the general plan miscarried in consequence of his failure to execute it, there can be no doubt that severe condemnation would most properly have fallen upon the delinquent. The desperate nature of Colonel Spragge's plight was not clearly known to General Colvile ; but he frankly states that had this been otherwise his decision to carry out his orders would have remained unshaken. To obey or not to obey is often a hard question to answer, and General Colvile's case simply furnishes a fresh example, proving that the propriety of a decision can only be established in accordance with its results. Whichever of the alternatives a man may choose, he places himself in the position of having backed an "outsider" for all he is worth. Afterwards he will be "a man or a mouse."

Sir Henry Colvile proceeded to South Africa in command of the Brigade of Guards and served therewith in the operations under Lord Methuen until 10th February, 1900, when, after handing over the Guards to Colonel Pole-Carew, Sir Henry was appointed to the newly-formed Ninth Division. MacDonald succeeded the gallant Wauchope at the head of the Highlanders, and these with the 19th Brigade, under Smith-Dorrien, furnished the infantry for the new division. At Paardeberg, on the eventful 18th February, the Ninth Division was heavily engaged, both its brigades suffering heavy losses. The result was not satisfactory, but the gallantry displayed by both was of the highest order, and the charge of the Duke of Cornwall's Light Infantry went very near to proving successful. "By Jove, they have done it !" somebody said at my side, and I own I, too, thought they had ; it seemed as if nothing could stop them. But the fatal moment came for them as it had came for others, and when within 200 yards of the enemy those that were left had to halt.

On 27th February the place of honour fell to the Canadians of the 19th Brigade. On the morning of the 26th General Colvile came to the conclusion that his trenches had been sufficiently advanced to warrant a final effort, and having explained the situation to Lord Roberts, he obtained permission to make the attempt. "It was the turn of the Canadians to occupy the trench and obviously theirs to make the assault."

The story has often been told, yet Sir Henry Colvile's description will be read as if the subject were quite fresh. At 2.30 a.m. the party under Lieutenant-Colonel Buchan, Royal Canadians, left the trench, and in a few hours Cronje and his whole force were prisoners of war. Next followed the engagement at Poplar Grove, in which the Ninth Division, acting on the north bank of the Modder River, were successful in capturing the single gun taken from the enemy that day. The credit for this achievement rests with the Shropshire Light Infantry, two companies of which scaled the Leeuwkop so rapidly that the enemy had no time to withdraw the gun. General Colvile corrects an error made by one of the war correspondents who complained that the Ninth Division failed to give proper support to the Seventh Division, which advanced next to it on the south bank. The fact was that the Ninth Division was itself delayed by the tardy march of the Seventh, which started later, and was never in front. The fight at Abram's Kraal—Dreifontein fell chiefly to the share of the Sixth Division, and the Ninth had no part in it. On 15th March the division entered Bloemfontein, where it rested until the 30th, when orders were received to march at daylight next morning to Waterfall Drift, taking four days' supplies. General Colvile was informed by Lord Roberts that Broadwood's Cavalry Brigade was being pressed by the enemy near Thaba 'Nchu and was retiring on the Modder River Waterworks. Broadwood's troops were to come under General Colvile's command and also Martyr's Mounted Infantry, which would join at Boesman's Kop. The combined forces were to attack the enemy.

The distance from Bloemfontein to Waterfall Drift is 21 miles, but from the Ninth Division camp it was 22. There were great difficulties about getting together the required number of nominally serviceable mules for the transport of four days' provisions, but at 5.30 a.m. the division marched off—that is to say, about 15 minutes after break of day. Shortly before reaching Springfield—about one-third of the distance to Waterfall—artillery fire was heard in the direction of Boesman's Kop. General Colvile galloped forward with his staff, and at Springfield received a report from Martyr that Broadwood had been cut up, and had lost some guns. Sir Henry arranged with the officer commanding the post at Springfield to supply a small escort for the divisional artillery on its arrival, and orders were sent to the latter to hurry up and push on to the front. Before General Colvile reached Boesman's Kop the firing had ceased, and all was over. Acting on a message from Colonel Martyr General Colvile mounted to the top of the kop, where he found Martyr, and could see before him the whole country spread out like a map. No firing was going on except that the enemy were shelling the mounted infantry holding Waterfall Drift. The dust caused by the enemy retiring with their spoils could be seen travelling in an easterly direction beyond the river. Martyr reported that Broadwood had got clear of the enemy, and was forming up his brigade about 2 miles off on the waterworks road.

Broadwood, in his report, says that he was clear of the enemy at 11.15 a.m.

At about 11.40 a.m. the head of the Highland Brigade approached Boesman's Kop Sir Henry conferred with his brigadiers, and had sent for Broadwood, who, however, declined to come. As the latter, however, subsequently reported to Lord Roberts that all chance of recapturing the guns was at an end, his presence at this conference could have been of little use—the general situation being under the eyes of those assembled. The captured guns, etc., were then 8 miles away, the Cavalry Brigade was incapable of action, and the infantry, apart from the fact that they had already marched 15 miles, and were rather knocked up, could not in any case have caught up the enemy. Accordingly the division continued its march at 1 p.m. to Waterfall Drift, from which the enemy, being in superior numbers, ejected the mounted infantry, but were in their turn driven away on the arrival of the division. For any further enterprise the available strength seemed insufficient, and the result of a reference to the Chief of the Staff was an order not to attack. The case was in fact hopeless from the first owing to the lack of mounted troops. However, the division reached its bivouac at 5.30 p.m., having covered 22 miles in 12 hours. It had done all that was possible.

From 24th April the headquarters and a portion of the Ninth Division followed the march of Ian Hamilton's column *viâ* Waterfall to Winburg and Ventersburg. The

endless question of supplies was a constant worry, but otherwise nothing of importance occurred until 20th May, when orders were received to march on Lindley and Heilbron, which places were to be reached on the 26th and 29th respectively. In spite of great difficulties and heavy fighting the division reached its destination upon the day appointed. The extremely "regrettable incident" which resulted in the capture of Colonel Spragge's force of Imperial Yeomanry has already been referred to, and space is not available for any attempt to follow in detail the actual fortunes of the Ninth Division during this very trying march. Suffice it to say that Lane's battery having joined on the 21st the force marched from Winburg on the 22nd, and on that day accomplished 19 miles to Zand River Drift. Next morning, avoiding Ventersburg and taking the shorter line *viâ* Roode Kraal, the column was joined at the latter place by MacDonald, and two battalions of the Highland Brigade that had previously been sent on to Ventersburg. Next day there was some skirmishing, but no serious fighting. On the 26th, however, there was a sharp action at Blaauwberg just beyond the Kroon Spruit. The enemy's position was cleverly turned, but in the absence of mounted troops the success could not be followed up. A portion of the enemy worked round, and put some pressure on the rear guard, but the force reached Lindley without mishap at 3.30 p.m., having so far kept time with its orders.

On the morning of the 27th the column resumed its march, the enemy hanging on the rear guard but not venturing to press home his attack, and by sunset the Rhenoster was reached—a distance of 28 miles on the map, but which General Colvile estimates at 18 only. Before daylight next morning General Colvile received the memorable message from Colonel Spragge. His own inclination was to accede to the request for help, but he considered it his duty to continue his march. At 8.30 a.m. the force marched off, and almost immediately became engaged with the enemy, who had already been reported in position at Roodepoort. This fight furnishes a very interesting study, the enemy's tactics being much the same as those employed with equal ill success against Mahon on 16th May—the day before his entry into Mafeking. In short, the enemy attempted by strongly threatening both flanks to bring the advance to a standstill. In this hope he was, however, disappointed. Whilst the Seaforths and Black Watch held him in check the Highland Light Infantry pressed forward, broke through the centre and pushing onwards gained the passage of the Vecht Spruit nearly 4 miles beyond Roodeport. Finally, the ox-transport followed over the drift, its rear being secured by the Argyll and Sutherland Highlanders. There was further fighting next day, but the enemy failed to show the same bold front, and the column reached Heilbron as it had reached Lindley on the appointed date. It was time—the only mounted troops under General Colvile—one squadron of the Eastern Province Horse originally 107 strong—had been reduced to 35 indifferently mounted men.

The total casualties in the force, which consisted only of the rather weak Highland Brigade and the divisional details, amounted to 60. The complete narrative of this march, like the rest of the book, is most interesting. Heilbron was the scene of final dismemberment for the Ninth Division. Sir Henry Colvile was summoned to Pretoria where, after an interview with Lord Roberts, he received his orders to return home.

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